Ms. Chris Jump, L.G.
Waste Remediation and Permitting Branch
USEPA, Region 7
11201 Renner Boulevard
Lenexa KS 66219

July 22, 2013

SUBJECT: **USEPA COMMENTS AND RESPONSE TO THE MAY 17, 2013 REVISED RFI SUPPLEMENTAL PHASE IV WORK PLAN, CLEAN HARBORS WICHITA FACILITY, 2549 NEW YORK AVENUE, WICHITA, KANSAS (EPA IDENTIFICATION NO KSD007246846)**

Dear Ms. Jump:

Attached please find Clean Harbors Environmental Services response to your May 17, 2013 comment letter on the above referenced document. Should you have any questions or concerns regarding these responses, please contact me at (417) 358-0826.

Sincerely,

Martin L Smith

Digitally signed by Martin L Smith
DN: cn=Martin L Smith, o=Clean Harbors Environmental Services, Inc., ou=Director, Corrective Actions and Discontinued Operations, email=smith.martin@cleanharbors.com, c=US
Date: 2013.08.08 13:51:14 -05'00'

Martin Smith
Director of Corrective Measures
Clean Harbors Environmental Services

RCRA
534680

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Chris Jump, L.G.
Waste Remediation and Permitting Branch
US EPA, Region 7
11201 Renner Boulevard,
Lenexa, KS 66219

RE: US EPA Comments and Response to the May 17, 2013 Revised RFI Supplemental Phase IV Work Plan, Clean Harbors Wichita Facility, 2549 New York Avenue, Wichita, Kansas (EPA Identification No KSD007246846)

Dear Ms. Jump:

Clean Harbors is providing this response letter to the comments on the RCRA Facility Investigation (RFI) Supplemental Phase IV Work plan at the Clean Harbors Wichita Facility, 2549 New York Avenue, Wichita, Kansas. This letter is intended to present the USEPA with responses to the comments received by Clean Harbors in an e-mail received June 14, 2013. These responses are presented below in standard font following the Specific Comments (in italics) provided by USEPA.

EPA COMMENT # 1. *Revised section 4.1.1.1 states that an organic vapor monitor (OVM) reading of 100 parts per million (ppm) will require the sample be submitted for laboratory analysis. As stated in Cameron-Cole LLC SOP Number 30(A), "the readings can vary ... based on soil type, soil handling, outside or ambient air temperatures, and type(s) of volatile contaminants expected." Analytical results from many soil samples collected in previous investigations exceeded EPA screening levels, but had photoionization detector (PID) or OVM readings below 100 ppm. Therefore, decisions concerning extending boring depth and submitting samples for volatile organic compound (VOC) analyses must consider PID or OVM responses distinctly above background concentrations, in addition to readings consistent with previously collected data, rather than 100 ppm. As indicated in the Work Plan, field observations and professional judgment will also go into making such decisions. Please confirm this approach to PID screening or propose an alternative approach.*

RESPONSE: Based on our conversations and a review of historical site data, the following revision to the procedure to determine which samples will be sent to the laboratory is proposed. Historical boring logs were reviewed from previous site investigations performed from 1999-2005. The average PID/OVM detection recorded on these logs was 22 ppm. The soil samples which showed VOC detections during laboratory analysis and were screened using a PID/OVM had an average PID/OVM reading of 37ppm. PID/OVM data also showed non detect samples with PID/OVM readings up to 19 ppm. Therefore, in addition to using field observations and professional judgment, a PID or OVM reading above 20 ppm will require that the sample be submitted for laboratory analysis.

EPA COMMENTS # 4 AND # 8. *SAP sections 3.1, 3.2.5 and 3.2.6 referred to in this response Cameron-Cole SOP number 7(e), and revised Section 4.1.1.1 are not specific about the screened interval of the*

temporary borings and include some statements that suggest the screened interval may be longer than two to three feet. Response 4B indicates that an attempt to limit the screened interval to no more than two feet will be made; however, this is not indicated directly in the Work Plan, SAP, or QAPP. EPA reiterates that a discrete two foot screened interval should be used for each ground water interval sampled. It is not acceptable to screen an extended thickness of the saturated zone (i.e., to the top of the clay interval) and pull samples from a targeted depth using tube placement. If water cannot be recovered from two feet below the water table in a reasonable time frame, borings should be advanced one foot at a time to attempt to collect a sample. Since the upper soils can be clayey and occlude the screen, contractors should bring sufficient rods, so that, if necessary, rods may be left in place temporarily to allow water to enter the screened interval. It is EPAs understanding based on the response to comment 15, that two separate, adjacent borings will be used to collect ground water samples at two distinct depths. Please provide a written description of ground water sample collection from temporary borings that is in accordance with this comment.

RESPONSE: Samples from temporary borings will be collected using sealed-screen samplers in accordance with the procedures described in the EPA document "Groundwater Sampling and Monitoring with Direct Push Technologies" (EPA 540/R-04/005, August 2005). Upon reaching the target interval, the screen will be retracted no further than 24 inches to ensure that a two-foot interval is not exceeded. Upon retraction of the screen the sample will be collected using low-flow technology as described in the SAP. If there is not sufficient volume for sample collection, the sampler may be left in place for several hours to allow for recharge. The length of time a screen will be left in place will be determined in the field by the professional geologist/engineer and will be based on field conditions and rate of recharge. If sufficient volume is not achieved, the sample screen may be retracted no more than 12 additional inches to help achieve sample volume. All deviations from sampling using 24-inch screens will be documented in the field log along with field conditions warranting the justification. If no more water is obtained with additional exposed screen, the borehole will be abandoned and the process will be repeated in another borehole near the original location.

Sealed-screen samplers are generally limited to collection of samples from one sampling interval per borehole advance; therefore, additional samples collected at other target intervals will be done in separate adjacent boreholes. It is not Clean Harbors intention to use a multilevel sampler within the same borehole to eliminate potential cross-contamination by drag down.

EPA COMMENT # 6A. *Clean Harbor's response to comment 6a is not acceptable. The list of VOC and semi-volatile organic compound (SVOC) analytes for Methods 8260B and 8270C provided in Table 2 of the QAPP does not include many of the contaminants of concern at the Clean Harbors site or potential petroleum compounds that could be present based on historical handling records (many chlorinated solvents, 1,4-dioxane, benzene, and individual polynuclear aromatic hydrocarbons were omitted). Some of the method detection limits (MDLs) appear to be elevated. Revise the MDLs based on the laboratory's analytical instruments, without sample dilution. Also, it is not clear why Method 8260b is proposed rather than the more current Method 8260c. If use of Method 8260b is intended, please justify. All*

water and soil samples collected for VOCs and SVOCs must be analyzed for the same VOC and SVOC analyte list used for the partial closure samples unless otherwise justified and approved by EPA. Revise pertinent Tables as necessary and provide a list of any VOC or SVOC analytes included in the closure plan, but proposed to be excluded from the corrective action analyses.

RESPONSE: An updated Table 2 of the QAPP is included as an attachment to this response. Table 2 has been revised to incorporate by reference all compounds from the Closure Plan. Samples to be collected as part of the Closure Plan have been included on Table 4.

Method 8260B is the method that will be used for analysis of all samples submitted for VOC analysis. Accutest Laboratories are certified to perform the analysis using Method 8260B; however, the State of Kansas is not yet accepting data analyzed under the more recent Method 8260C and requires that the partial closure samples be analyzed using Method 8260B. So that all data is consistent, all VOC analysis will be performed using Method 8260B.

EPA COMMENT # 6B. *The EPA defers review of radiological sampling and testing techniques, including information in response # 6b, to the Kansas Department of Health and Environment, Bureau of Environmental Health's Radiation and Asbestos Control Section. Please include this information in the work plan generated for their review.*

RESPONSE: Clean Harbors agrees with this comment and is working with the Kansas Department of Health and Environment, Bureau of Environmental Health's Radiation and Asbestos Control Section to obtain address aspects of radiological sampling and testing at the site.

EPA COMMENT # 10 *This response is acceptable; however, for planning purposes, EPA notes that while evaluating these responses, a cost estimate prepared for the facility was reviewed that lists the following number of sumps on the facility: 5 sumps located in Building D; 2 sumps located in building B; and 1 sump located in Building J; 1 sump located in Building I; and 3 sumps located in the Processing Area. As you are aware, the sumps in Buildings D, B, and J must have samples collected below them according to the Partial Closure Plan. Though not required at this time, Clean Harbors may also want to consider collecting soil samples beneath the sumps in the Processing Area and Building I as part of the identification and characterization of potential source areas. Please indicate whether Clean Harbors intends to sample the sumps in Building I and the Processing area as part of the field work proposed in the supplemental RFI.*

RESPONSE: Clean Harbors does not believe that collection of additional samples beneath the sumps in Buildings I and the processing area is warranted at this time.

EPA COMMENT # 12. *This response is acceptable with respect to boring locations; however, the EPA defers review of radiological sampling and testing techniques, including information in response # 12b, to the Kansas Department of Health and Environment, Bureau of Environmental Health's Radiation and Asbestos Control Section. Please include this information in the work plan generated for their review.*

RESPONSE: See Response to Comment 6B.

EPA COMMENT # 13. *This response is acceptable; however, there is a typographical error in Table 4. Boring S25-2 is listed in the sample location column twice, one of which is adjacent to a soil and a water sample that should be from S25-1. Please review table 4 and make any necessary revisions.*

RESPONSE: The samples from S25-1 that were incorrectly attributed to boring S25-2 have been corrected in Table 4. A revised Table 4 is included as an attachment to this response.

EPA COMMENT # 14B. *This response is acceptable with respect to locations; however, the EPA defers review of radiological sampling and testing techniques, including information in response # 14b, to the Kansas Department of Health and Environment, Bureau of Environmental Health's Radiation and Asbestos Control Section. Please include this information in the work plan generated for their review.*

RESPONSE: See Response to Comment 6B.

EPA COMMENT # 15. *This discussion also applies to SAP Section 3.2.6., as well as Section 5.6. There is apparently some misunderstanding as to the purpose and protocol for the vertical stratification evaluation. For clarification, and as discussed during the conference call, previous direct-push water samples collected on site indicated significant vertical stratification of the dissolved phase ground water contamination. EPA requires that Clean Harbors evaluate and characterize the existence and extent of vertical contaminant stratification in the groundwater plume associated with the Facility; therefore, samples from across the site, including the down gradient side of the facility and near suspected source areas, are necessary to comply with this requirement. If significant vertical stratification of the contaminants is confirmed, evaluation of whether the existing wells can provide representative samples would be necessary. It is EPA's understanding that Clean Harbors wishes to perform the vertical stratification evaluation and evaluation of the representativeness of existing wells for stratified sampling at the same time and; therefore, proposed the use of Hydrasleeve™ samplers in existing monitoring wells. In order to evaluate whether Hydrasleeve™ samples are comparable to ground water samples collected from short, discreetly screened intervals, and from existing wells using a low flow technique, additional boring locations with two sampling depths must be installed in close proximity to Hydrasleeve™ sample locations to directly compare results between the sample types at similar depths. If you also intend to collect a sample from the wells to compare the historical sampling technique with the Hydrasleeve™ samples and discreet interval boring samples, include this sample in the tables. Please update the Tables and Figures to show these additional sample locations.*

Boring Location JC-5 is not approved as one of the six vertical stratification evaluation locations. EPA requests that Clean Harbors use boring location NBJ-1 instead of location JC-5.

There appears to be typographic error in revised Section 5.6 where the three wells and associated borings are discussed. The text in each numbered section states the ground water sample will be pulled from "above the water table". EPA assumes this is meant to read "above the clay lens" Please confirm.

RESPONSE It is Clean Harbors understanding that the objectives of the vertical stratification investigation are twofold. Therefore, to clarify the objectives and proposed data collection to satisfy the objective, the language in Section 5.6 of the RFI Work Plan has been modified to that below. The revised language includes a change from JC5 to NBJ1 for the clay lens data point. Table 4 has been updated and is included as an attachment to his response.

"The vertical stratification investigation has two objectives.

The first objective is verify that samples collected from long screen wells are not presenting a bias low in the data due to the well construction. This objective will be satisfied by use of hydrasleeve samplers within three existing wells to determine VOC concentrations along the water column for comparability to data collected using low flow sampling techniques from separate adjacent borings.

The second objective is to determine if the contamination below the site is vertically stratified in the subsurface. This objective will be satisfied by collecting samples at multiple depths that include the water table surface and just above the clay lens.

There have been numerous soil borings and monitoring wells installed across the facility during previous investigations. The conceptual model indicates that there are two distinct water bearing units under the facility. The upper zone, which is 10 - 12 ft thick and the lower zone, which is 9 - 17 ft thick and underlain by the Wellington Shale (Bedrock). These two zones are monitored separately with individual wells completed so that the screens are isolated to either the upper or lower zones.

KDHE and EPA are concerned that there may potentially be stratification of contamination within the upper zone. Wells used to monitor the upper zone are constructed with either 10-foot or 15-foot screens. KDHE and EPA have stated that a 10–15 foot screened interval is too long and results in dilutions to groundwater samples making vertical delineation of groundwater impacts difficult to identify. Shorter well screen lengths generally result in a more precise sample interval and may yield results that are more representative of actual groundwater concentrations by eliminating dilutive influences.

Field efforts to determine the degree of contaminant stratification will be combined with the efforts to delineate subsurface plumes. In order to do so, several transects will be used, as shown in Figures 4-13. These transects run laterally across the site and intersect sample points. By analyzing the laboratory results of the samples at these points, the subsurface stratigraphy will be more apparent.

Objective 1

Hydrasleeve samplers will be installed within three existing wells to determine VOC concentrations along the water column for comparability to data collected using low flow sampling techniques from adjacent borings. HS samplers allow the user to collect a discrete sample from within the screened interval of a monitoring well without purging. The HS collects a core of water from a two- to four-foot section of well screen, with minimal displacement and disturbance of the water column. Once full, the sample is sealed within the sleeve eliminating contact with other fluids in the water column. Multiple sleeves may be deployed in a single well to determine the concentrations of contaminants along the entire sampling interval.

To determine if stratification of VOCs exist within the upper zone, HS devices will be used in three existing wells (SK-2S, SK-12S, and SK-1S). By choosing three existing well locations that are downgradient from presumed existing source areas, and using data collected upgradient near the source area where stratification is expected, a comparison will provide information on whether stratification continues to occur at downgradient locations. The HS samplers will be placed within three existing wells along the entire water column in the well to the total depth of the well. Following sample collection using the HS samples, additional samples will be collected from the well using the traditional low-flow technology. An evaluation of findings will be presented in the RFI report. The three locations and associated borings are as follows: Well SK-2S, SK-12S, and SK-1S.

Objective 2

Samples will be collected at six locations at multiple depths that include the water table surface and just above the clay lens to determine the vertical stratification in the groundwater plumes. The six locations will be broken into three groupings of two sample locations each. The first group will represent the western portion of the facility and include wells SK12S and Borings S17-1/S17-1a. The second group will consist of well SK-2S, and Borings S11-1/S11-1a, and represents the plume under the central portion of the facility. The third group consists of Well SK-1S, and Boring NBJ1/NBJ1a, which represents the plume under the eastern portion of the facility.

Wells SK-1S and SK-2S terminate within or just above the clay lens. SK-12S terminates approximately 3 feet above the clay lens. Well SK-3S located just northeast of well SK-12S terminates in the clay, however, it is located more cross-gradient to an apparent source and SK-12S is located more downgradient and appears to be a better candidate for multiple depth sampling even with the depth limitation. These wells are also located within known higher concentration plumes and the HS data collected will satisfy sampling at multiple depths at three of the six sample locations. An additional boring will be advanced upgradient to all three existing wells and groundwater samples will be collected from two-feet below the water table and above the clay lens. Locations have

been chosen that are near and downgradient of source area. Ground water samples will be collected from the upper 2 feet of water table, and immediately above the clay lens, or the anticipated depth of the clay lens if it is absent in that boring. If the clay lens is absent, a deep ground water sample above the bedrock should also be collected and analyzed. An additional boring will then be advanced to an intermediate zone between the upper zone and bedrock and an additional groundwater sample will be collected.

Western Group
Well SK-12S and Boring S17-1/S17-1a

Dowgradient sample location: Well SK-12S – HS data collected throughout the water column. The proposed upgradient sample location is S17-1. Samples will be collected from two ft. below the water table. A second boring (S17-1a) will be advanced in the vicinity of S17-1 down to the clay and a groundwater sample will be collected from the interval directly above the clay lens.

Central Group
Well SK-2S and Boring S11-1/S11-1a

Dowgradient sample location: Well SK-2S – HS data collected throughout the water column. The proposed upgradient sample location is S11-1. Samples are will be collected from two ft. below the water table. A second boring (S11-1a) will be advanced in the vicinity of S11-1 down to the clay and a groundwater sample will be pulled from the interval directly above the clay lens.

Eastern Group
Well SK-1S and Boring NBJ1/NBJ1a

Dowgradient sample location: Well SK-1S – HS data collected throughout the water column. The proposed upgradient sample location is NBJ1. Samples are currently proposed from two ft. below the water table. A second boring (NBJ1a) will be advanced in the vicinity of NBJ1 down to the clay and a groundwater sample will be pulled from the interval directly above the clay lens. "

EPA COMMENT # 17A. According to the phone call on June 14, 2013, it is EPA's understanding that the aquatic detritus samples will be used to conduct the benthic invertebrate survey. Please confirm that the term "aquatic detritus sample" is being used interchangeably with the term "macroinvertebrate sampling".

RESPONSE: Aquatic detritus samples are used to conduct the macroinvertebrate sampling. "Benthic invertebrate survey" and "macroinvertibrate survey" are being used interchangeably.

EPA COMMENT # 17C. *It is not necessary to analyze sediment samples for VOCs if pore water is sampled for VOCs. Analysis for VOCs was removed from sediment sample locations on Table 4; however, the text*

response indicates that the sediment samples will be sampled for VOCs. Please clarify whether sediment samples will be analyzed for VOCs.

RESPONSE: Sediment samples will not be analyzed for VOCs as EPA has indicated that pore water is the more appropriate matrix for characterizing VOCs within the stream sediments. ✓

EPA COMMENT # 17D. *The response to comments and revised Table 4, Figure 13 and Section 5.8 all contain inconsistent information about collection of an upgradient VOC sample on the Creek. Please reconcile the information in these four items and confirm that the upgradient VOC sample on the creek will be sampled by pore water, not sediment samples. Revise Tables and Figures as necessary.*

RESPONSE: Eleven total pore water samples and eleven total sediment samples will be collected along Chisholm Creek. Ten of each media (sediment and pore-water) will be primary samples and one of each media will be an upgradient background sample. Table 4 has been updated to reflect the proposed sample location and analysis requested. Figure 13 currently ✓ includes the upgradient pore water sample location and does not require revision. The last three paragraphs of Section 5.8 of the Work Plan have been updated to as follows to clarify proposed sample locations.

"Proposed Sediment Investigation

Eleven total sediment samples will be collected. Ten primary sediment samples will be collected at approximately 100 ft intervals along Chisholm Creek, with an additional upgradient background sample collected upstream. The primary sample locations are identified as CC-1 through CC-10 on Figure 13. CC-0 identifies the upgradient background sample location.

Proposed Pore Water Investigation

Eleven total pore water samples will be collected. Ten primary pore water samples will be collected at 100 ft intervals along Chisholm Creek, with an additional upgradient background sample collected upstream. The primary sample locations are identified as PW-1 through PW-10 on Figure 13. PW-0 identifies the upgradient background sample location.

Proposed Invertebrate Survey

Two background and three aquatic detritus samples will be collected at five locations along Chisholm Creek. Sample locations will be collected as close as feasible to sediment sample locations. These five sample locations are identified as BS-1 through BS-5 on Figure 13."

A revised Table 4 is included as an attachment to this response.

EPA COMMENT # 19. *All samples from Boring S20-1, both soil and groundwater, must be analyzed and evaluated for metals contamination, since metals may be associated with paint wastes. Revise tables as necessary.*

RESPONSE: All samples from Boring S20-1, both soil and groundwater, will be analyzed and evaluated for metals. A revised Table 4 is included as an attachment to this response.

EPA COMMENT # 21. *Revised Figure 12 shows two subslab sampling locations and revised SOP Section 3.4 states that two subslab samples will be collected from building F; however, revised Section 5.11 of the Work Plan indicates only one subslab sample will be collected. Please confirm that subslab vapor samples from two locations in Building F will be collected and analyzed for VOCs. Revise any tables or figures as necessary.*

RESPONSE: Clean Harbors assumes that the response should reference Building E rather than Building F. Paragraphs 3 through 5 of Section 5.11 have been replaced with the following text to clarify that two subslab vapor samples in Building E will be collected and analyzed for VOCs.

"In accordance with KDHE Guidance, samples will be collected in this building near sources of potential intrusion and heating ventilation and air conditioning (HVAC) intake areas. A total of five air samples will be collected. Two indoor air quality samples will be collected to get a representative sampling of indoor air; two sub-slab vapor samples will be collected to determine the potential for vapor intrusion; and an outdoor background sample will be collected upwind (typically to the south), at the south side of the facility or on the building roof not near a vent. The final location will be based on site conditions while sampling (wind direction and operations) this location may be moved to a more appropriate location. Based on this, the background sample will be collected from the ambient air on the southwest portion of the facility away from facility operations for comparison purposes.

All sample collection procedures will be performed in accordance with the analytical laboratory sample collection guidance. Refer to the QAPP in Appendix C for the current analytical laboratory guide. Sampling techniques are described in the SAP. Data will be compared to the more restrictive values of KDHE or most recently published RSL from EPA.

Proposed Air Sample Locations

Two indoor air quality samples (AS-1 and AS-2), a background outside air sample (AS-3), and two sub-slab vapor samples (AS-4 and AS-5) and will be collected and analyzed for VOCs. The indoor air sample locations are identified on Figures 4 through 13. These sample locations may be modified in the field if a more representative location with Building E is identified. At least one sample will be collected on the lowest building level if present, this includes a crawl space if the building has one. "

EPA COMMENT # 25. *The signed QAPP approval page should include EPA signatures. Please include signature lines for Diane Harris, EPA Quality Assurance Manager and Christine Jump, EPA Project Manager. Submit an original signed approval page for the final QAPP and EPA will sign the final document, make copies, and send the original back to you.*

RESPONSE: A signature page for approval has been added to the front of the QAPP. A copy of this approval page is included as an attachment to this response.

EPA COMMENT # 27. *Regulations in CFR 264.73 also indicate that a written operating record must be maintained at the facility and that records and results pertaining to ground water monitoring and cleanup must be maintained in the operating record until closure of the facility. Please confirm.*

RESPONSE: The facility routinely stores files on site and maintains a written operating record of ongoing activities. Records and results pertaining to the groundwater monitoring program and cleanup will be maintained at the facility in accordance with requirements in the current permit.

ADDITIONAL COMMENT 1; REVISED SECTION 4.1.1 AND 4.1.1.1. *This discussion also applies to SAP Section 3.3.1. Use of the Terra Core® samplers as proposed in the Partial Closure Plan was added to revised Section 4.1.1; however, no information is provided concerning the analytical preparation method that will be used, whether a pre-prepared field preservation kit will be used, or weighing and preserving the samples will be conducted in the field, or whether samples will be collected from each location for both high and low level concentrations. Please provide this information concerning use of the Terra Core® samplers on this site.*

RESPONSE: Soil samples will be collected using Terra Core® samplers. The samplers will be sized by the laboratory to collect the appropriate amount of soil. Method 5035 will be used to prepare the samples. The laboratory pre-tared and pre-preserved vials and a sampling syringe for transferring the sample to the three vials. One of the vials will contain methanol (for high level analysis) and two of the vials will contain a stir bar and bisulfate (for low level analysis). Additionally, a jar of soil will be collected and used by the laboratory to determine the dry weight of the soil. This measurement will be used to determine the final concentrations by normalizing to the dry weight.

ADDITIONAL COMMENT 2; REVISED SECTION 5.7. *The boring locations for Transect T-8 are acceptable; however, EPA will evaluate the need for additional downgradient monitoring (to the east and south) in the future based on the results of this investigation.*

RESPONSE: No response required.

ADDITIONAL COMMENT 3; REVISED SECTION 7. *Please provide a revised schedule that includes any updates based on the required submittal of an application and work plan for radiation activities to KDHE and comments/approval of Partial Closures activities from KDHE.*

RESPONSE: A revised schedule is provided as Figure 14.

Please call Marty Smith at 417-358-0826 if you have any questions regarding these responses.

Sincerely,

Mike Stephenson
Senior Scientist

Attachments:

- Closure Plan Appendix A Parameter,
- Figure 14 – Revised Project Schedule,
- Updated Table 4,
- Revised QAPP Table 2, and
- QAPP Signature Page

Compound List Report
Product: AB8270STD Semivolatiles
Matrix: AQ Aqueous

Method List: AB8270 AQ
Report List: AB8270 ALL
RL/MDL Factor: 1

Method Ref: SW846 8270D
ABN Full List

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 10/23/10 MS/MSD	RPD	BS	DUP
Benzoic Acid	65-85-0	50	10	ug/l	10-150	40	10-150	40
2-Chlorophenol	95-57-8	5	0.5	ug/l	44-103	29	44-103	29
4-Chloro-3-methyl phenol	59-50-7	5	0.5	ug/l	53-105	24	53-105	24
2,4-Dichlorophenol	120-83-2	5	0.5	ug/l	53-108	26	53-108	26
2,4-Dimethylphenol	105-67-9	5	1.1	ug/l	37-91	28	37-91	28
2,4-Dinitrophenol	51-28-5	25	10	ug/l	37-111	30	37-111	30
4,6-Dinitro-o-cresol	534-52-1	10	2	ug/l	62-115	26	62-115	26
2-Methylphenol	95-48-7	5	0.54	ug/l	35-91	30	35-91	30
3&4-Methylphenol		5	1.1	ug/l	32-85	29	32-85	29
2-Nitrophenol	88-75-5	5	0.54	ug/l	49-111	30	49-111	30
4-Nitrophenol	100-02-7	25	5	ug/l	13-55	31	13-55	31
Pentachlorophenol	87-86-5	25	5.4	ug/l	57-118	26	57-118	26
Phenol	108-95-2	5	0.5	ug/l	13-54	34	13-54	34
2,4,5-Trichlorophenol	95-95-4	5	0.5	ug/l	59-106	23	59-106	23
2,4,6-Trichlorophenol	88-06-2	5	0.5	ug/l	58-107	24	58-107	24
Acenaphthene	83-32-9	5	0.5	ug/l	58-106	21	58-106	21
Acenaphthylene	208-96-8	5	0.5	ug/l	58-105	21	58-105	21
Aniline	62-53-3	5	0.52	ug/l	43-98	28	43-98	28
Anthracene	120-12-7	5	0.5	ug/l	65-108	19	65-108	19
Benzidine	92-87-5	25	4.7	ug/l	15-73	23	15-73	23
Benzo(a)anthracene	56-55-3	5	0.5	ug/l	63-111	19	63-111	19
Benzo(a)pyrene	50-32-8	5	0.5	ug/l	62-106	20	62-106	20
Benzo(b)fluoranthene	205-99-2	5	0.5	ug/l	63-109	20	63-109	20
Benzo(g,h,i)perylene	191-24-2	5	0.5	ug/l	61-111	21	61-111	21
Benzo(k)fluoranthene	207-08-9	5	0.5	ug/l	64-111	20	64-111	20
4-Bromophenyl phenyl ether	101-55-3	5	0.5	ug/l	64-107	20	64-107	20
Butyl benzyl phthalate	85-68-7	5	1.1	ug/l	59-114	20	59-114	20
Benzyl Alcohol	100-51-6	5	1	ug/l	34-98	27	34-98	27
2-Chloronaphthalene	91-58-7	5	0.5	ug/l	54-105	24	54-105	24
4-Chloroaniline	106-47-8	5	0.5	ug/l	53-103	22	53-103	22
Carbazole	86-74-8	5	0.5	ug/l	66-109	20	66-109	20
Chrysene	218-01-9	5	0.5	ug/l	64-111	19	64-111	19
bis(2-Chloroethoxy)methane	111-91-1	5	0.5	ug/l	48-101	28	48-101	28
bis(2-Chloroethyl)ether	111-44-4	5	0.54	ug/l	51-108	27	51-108	27
bis(2-Chloroisopropyl)ether	108-60-1	5	0.54	ug/l	43-106	27	43-106	27
4-Chlorophenyl phenyl ether	7005-72-3	5	0.5	ug/l	61-107	20	61-107	20
1,2-Dichlorobenzene	95-50-1	5	1	ug/l	41-102	28	41-102	28
1,2-Diphenylhydrazine	122-66-7	5	0.5	ug/l	61-110	20	61-110	20
1,3-Dichlorobenzene	541-73-1	5	1	ug/l	38-100	28	38-100	28
1,4-Dichlorobenzene	106-46-7	5	1	ug/l	40-100	28	40-100	28
2,4-Dinitrotoluene	121-14-2	5	0.5	ug/l	60-109	20	60-109	20

2,6-Dinitrotoluene	606-20-2	5	0.5 ug/l	58-104	21	58-104	21
3,3'-Dichlorobenzidine	91-94-1	10	1 ug/l	57-105	25	57-105	25
Dibenzo(a,h)anthracene	53-70-3	5	0.52 ug/l	62-112	20	62-112	20
Dibenzofuran	132-64-9	5	0.5 ug/l	61-108	20	61-108	20
Di-n-butyl phthalate	84-74-2	5	0.87 ug/l	62-109	20	62-109	20
Di-n-octyl phthalate	117-84-0	5	1.1 ug/l	60-120	24	60-120	24
Diethyl phthalate	84-66-2	5	1.1 ug/l	62-109	19	62-109	19
Dimethyl phthalate	131-11-3	5	0.99 ug/l	63-106	19	63-106	19
bis(2-Ethylhexyl)phthalate	117-81-7	5	1.1 ug/l	59-116	21	59-116	21
Fluoranthene	206-44-0	5	0.5 ug/l	65-114	21	65-114	21
Fluorene	86-73-7	5	0.5 ug/l	61-106	19	61-106	19
Hexachlorobenzene	118-74-1	5	0.56 ug/l	62-107	20	62-107	20
Hexachlorobutadiene	87-68-3	5	1 ug/l	38-107	30	38-107	30
Hexachlorocyclopentadiene	77-47-4	10	1.9 ug/l	19-84	35	19-84	35
Hexachloroethane	67-72-1	5	1 ug/l	35-101	29	35-101	29
Indeno(1,2,3-cd)pyrene	193-39-5	5	0.5 ug/l	61-113	20	61-113	20
Isophorone	78-59-1	5	0.5 ug/l	58-111	26	58-111	26
1-Methylnaphthalene	90-12-0	5	0.5 ug/l	52-102	25	52-102	25
2-Methylnaphthalene	91-57-6	5	0.57 ug/l	58-112	26	58-112	26
2-Nitroaniline	88-74-4	5	0.5 ug/l	60-109	20	60-109	20
3-Nitroaniline	99-09-2	5	0.5 ug/l	52-107	21	52-107	21
4-Nitroaniline	100-01-6	5	0.5 ug/l	59-111	21	59-111	21
Naphthalene	91-20-3	5	0.8 ug/l	50-104	28	50-104	28
Nitrobenzene	98-95-3	5	0.59 ug/l	52-105	28	52-105	28
N-Nitrosodimethylamine	62-75-9	5	2.4 ug/l	20-71	32	20-71	32
N-Nitroso-di-n-propylamine	621-64-7	5	0.5 ug/l	51-104	28	51-104	28
N-Nitrosodiphenylamine	86-30-6	5	1 ug/l	57-110	19	57-110	19
Phenanthrene	85-01-8	5	0.5 ug/l	65-108	20	65-108	20
Pyrene	129-00-0	5	0.5 ug/l	60-113	20	60-113	20
Pyridine	110-86-1	10	1.6 ug/l	15-67	40	15-67	40
1,2,4-Trichlorobenzene	120-82-1	5	0.5 ug/l	45-104	28	45-104	28

2-Fluorophenol	367-12-4	Surrogate Limits:	14-62
Phenol-d5	4165-62-2	Surrogate Limits:	Oct-40
2,4,6-Tribromophenol	118-79-6	Surrogate Limits:	33-118
Nitrobenzene-d5	4165-60-0	Surrogate Limits:	42-108
2-Fluorobiphenyl	321-60-8	Surrogate Limits:	40-106
Terphenyl-d14	1718-51-0	Surrogate Limits:	39-121

72 compounds and 6 surrogates reported in list AB8270

AB8270STD solid

Compound	CAS No.	RL	MDL	Units	MS/MSD	RPD	BS	DUP	
Benzoic Acid	65-85-0	830	290	ug/kg	44-116		36	44-116	36
2-Chlorophenol	95-57-8	170	17	ug/kg	54-97		31	54-97	31
4-Chloro-3-methyl phenol	59-50-7	170	17	ug/kg	59-102		27	59-102	27
2,4-Dichlorophenol	120-83-2	170	17	ug/kg	60-101		30	60-101	30
2,4-Dimethylphenol	105-67-9	170	21	ug/kg	49-89		31	49-89	31
2,4-Dinitrophenol	51-28-5	830	330	ug/kg	39-107		40	39-107	40
4,6-Dinitro-o-cresol	534-52-1	330	67	ug/kg	58-109		37	58-109	37
2-Methylphenol	95-48-7	170	17	ug/kg	53-94		29	53-94	29
3&4-Methylphenol		170	24	ug/kg	54-95		31	54-95	31
2-Nitrophenol	88-75-5	170	17	ug/kg	55-96		30	55-96	30
4-Nitrophenol	100-02-7	830	130	ug/kg	56-106		29	56-106	29
Pentachlorophenol	87-86-5	830	200	ug/kg	50-115		33	50-115	33
Phenol	108-95-2	170	17	ug/kg	55-99		28	55-99	28
2,4,5-Trichlorophenol	95-95-4	170	17	ug/kg	60-101		28	60-101	28
2,4,6-Trichlorophenol	88-06-2	170	17	ug/kg	60-100		27	60-100	27
Acenaphthene	83-32-9	170	17	ug/kg	59-97		29	59-97	29
Acenaphthylene	208-96-8	170	17	ug/kg	58-98		30	58-98	30
Aniline	62-53-3	170	33	ug/kg	38-92		38	38-92	38
Anthracene	120-12-7	170	17	ug/kg	61-104		29	61-104	29
Benzidine	92-87-5	1700	330	ug/kg	10-151		50	10-156	
Benzo(a)anthracene	56-55-3	170	17	ug/kg	60-106		31	60-106	31
Benzo(a)pyrene	50-32-8	170	17	ug/kg	59-102		32	59-102	32
Benzo(b)fluoranthene	205-99-2	170	17	ug/kg	60-107		31	60-107	31
Benzo(g,h,i)perylene	191-24-2	170	17	ug/kg	56-103		32	56-103	32
Benzo(k)fluoranthene	207-08-9	170	17	ug/kg	61-107		30	61-107	30
4-Bromophenyl phenyl ether	101-55-3	170	17	ug/kg	60-104		26	60-104	26
Butyl benzyl phthalate	85-68-7	170	33	ug/kg	57-110		28	57-110	28
Benzyl Alcohol	100-51-6	170	33	ug/kg	51-102		34	51-102	34
2-Chloronaphthalene	91-58-7	170	33	ug/kg	57-95		28	57-95	28
4-Chloroaniline	106-47-8	170	17	ug/kg	19-85		34	19-85	34
Carbazole	86-74-8	170	17	ug/kg	60-106		30	60-106	30
Chrysene	218-01-9	170	17	ug/kg	60-107		31	60-107	31
bis(2-Chloroethoxy)methane	111-91-1	170	17	ug/kg	51-89		30	51-89	30
bis(2-Chloroethyl)ether	111-44-4	170	17	ug/kg	50-96		33	50-96	33
bis(2-Chloroisopropyl)ether	108-60-1	170	17	ug/kg	44-94		32	44-94	32
4-Chlorophenyl phenyl ether	7005-72-3	170	17	ug/kg	60-101		26	60-101	26
1,2-Dichlorobenzene	95-50-1	170	33	ug/kg	47-91		35	47-91	35
1,2-Diphenylhydrazine	122-66-7	170	17	ug/kg	58-104		27	58-104	27
1,3-Dichlorobenzene	541-73-1	170	33	ug/kg	45-86		36	45-86	36
1,4-Dichlorobenzene	106-46-7	170	33	ug/kg	45-88		36	45-88	36
2,4-Dinitrotoluene	121-14-2	170	17	ug/kg	59-103		30	59-103	30
2,6-Dinitrotoluene	606-20-2	170	20	ug/kg	57-99		30	57-99	30
3,3'-Dichlorobenzidine	91-94-1	330	33	ug/kg	34-88		31	34-88	31
Dibenzo(a,h)anthracene	53-70-3	170	17	ug/kg	57-105		29	57-105	29
Dibenzofuran	132-64-9	170	17	ug/kg	58-103		27	58-103	27
Di-n-butyl phthalate	84-74-2	330	67	ug/kg	59-105		27	59-105	27
Di-n-octyl phthalate	117-84-0	170	33	ug/kg	59-117		28	59-117	28
Diethyl phthalate	84-66-2	330	67	ug/kg	59-106		27	59-106	27

Dimethyl phthalate	131-11-3	170	33 ug/kg	60-100	26	60-100	26
bis(2-Ethylhexyl)phthalate	117-81-7	330	67 ug/kg	57-111	29	57-111	29
Fluoranthene	206-44-0	170	17 ug/kg	60-110	32	60-110	32
Fluorene	86-73-7	170	17 ug/kg	60-99	30	60-99	30
Hexachlorobenzene	118-74-1	170	17 ug/kg	58-103	27	58-103	27
Hexachlorobutadiene	87-68-3	170	33 ug/kg	49-95	33	49-95	33
Hexachlorocyclopentadiene	77-47-4	170	73 ug/kg	36-94	41	36-94	41
Hexachloroethane	67-72-1	170	33 ug/kg	44-89	38	44-89	38
Indeno(1,2,3-cd)pyrene	193-39-5	170	17 ug/kg	57-104	33	57-104	33
Isophorone	78-59-1	170	17 ug/kg	58-97	30	58-97	30
1-Methylnaphthalene	90-12-0	170	17 ug/kg	55-93	33	55-93	33
2-Methylnaphthalene	91-57-6	170	17 ug/kg	57-103	32	57-103	32
2-Nitroaniline	88-74-4	170	33 ug/kg	53-106	29	53-106	29
3-Nitroaniline	99-09-2	170	33 ug/kg	29-85	31	29-85	31
4-Nitroaniline	100-01-6	170	33 ug/kg	49-104	31	49-104	31
Naphthalene	91-20-3	170	27 ug/kg	54-93	32	54-93	32
Nitrobenzene	98-95-3	170	17 ug/kg	53-92	32	53-92	32
N-Nitrosodimethylamine	62-75-9	330	70 ug/kg	37-88	34	37-88	34
N-Nitroso-di-n-propylamine	621-64-7	170	17 ug/kg	49-94	28	49-94	28
N-Nitrosodiphenylamine	86-30-6	170	17 ug/kg	53-107	28	53-107	28
Phenanthrene	85-01-8	170	17 ug/kg	61-103	32	61-103	32
Pyrene	129-00-0	170	17 ug/kg	58-109	33	58-109	33
Pyridine	110-86-1	330	67 ug/kg	30-68	38	30-68	38
1,2,4-Trichlorobenzene	120-82-1	170	17 ug/kg	52-93	32	52-93	32

2-Fluorophenol	367-12-4		
Phenol-d5	4165-62-2	Surrogate Limits:	40-102
2,4,6-Tribromophenol	118-79-6	Surrogate Limits:	41-100
Nitrobenzene-d5	4165-60-0	Surrogate Limits:	42-108
2-Fluorobiphenyl	321-60-8	Surrogate Limits:	40-105
Terphenyl-d14	1718-51-0	Surrogate Limits:	43-107
		Surrogate Limits:	45-119

72 compounds and 6 surrogates reported in list AB8270

Compound List Report
Product: P8081PESTTCL Pesticides, TCL
Matrix: SO Solid

Method List: P8081 SO
Report List: PTCL ALL
RL/MDL Factor: 0.33

Method Ref: SW846 8081B
Pesticide TCL List

LF17812
LJ1046

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 07/31/08 MS/MSD	RPD	BS	DUP
Aldrin	309-00-2	1.7	0.43	ug/kg	57-118	27	57-118	27
alpha-BHC	319-84-6	1.7	0.36	ug/kg	65-116	23	65-116	23
beta-BHC	319-85-7	1.7	0.36	ug/kg	63-124	20	63-124	20
delta-BHC	319-86-8	1.7	0.33	ug/kg	41-127	25	41-127	25
gamma-BHC (Lindane)	58-89-9	1.7	0.4	ug/kg	68-121	22	68-121	22
alpha-Chlordane	5103-71-9	1.7	0.36	ug/kg	69-120	33	69-120	28
gamma-Chlordane	5103-74-2	1.7	0.36	ug/kg	70-123	34	70-123	34
Dieldrin	60-57-1	1.7	0.36	ug/kg	69-122	25	69-122	25
4,4'-DDD	72-54-8	3.3	0.43	ug/kg	63-135	28	63-135	28
4,4'-DDE	72-55-9	3.3	0.4	ug/kg	66-127	28	66-127	28
4,4'-DDT	50-29-3	3.3	0.43	ug/kg	66-142	28	66-142	28
Endrin	72-20-8	3.3	0.4	ug/kg	69-135	24	69-135	24
Endosulfan sulfate	1031-07-8	3.3	0.36	ug/kg	61-126	25	61-126	25
Endrin aldehyde	7421-93-4	3.3	0.43	ug/kg	5-113	30	5-113	30
Endrin ketone	53494-70-5	3.3	0.36	ug/kg	64-135	23	64-135	23
Endosulfan-I	959-98-8	1.7	0.33	ug/kg	68-119	20	68-119	20
Endosulfan-II	33213-65-9	1.7	0.33	ug/kg	65-124	19	65-124	19
Heptachlor	76-44-8	1.7	0.4	ug/kg	65-123	26	65-123	26
Heptachlor epoxide	1024-57-3	1.7	0.33	ug/kg	69-117	26	69-117	26
Methoxychlor	72-43-5	3.3	0.66	ug/kg	66-139	23	66-139	23
Toxaphene	8001-35-2	83	33	ug/kg	50-150	30	50-150	30
Tetrachloro-m-xylene	877-09-8				Surrogate Limits: 46-122			
Decachlorobiphenyl	2051-24-3				Surrogate Limits: 50-133			

21 compounds and 2 surrogates reported in list PTCL

Compound List Report
Product: P8081PESTTCL Pesticides, TCL
Matrix: AQ Aqueous

Method List: P8081 AQ
Report List: PTCL ALL
RL/MDL Factor: 0.01

Method Ref: SW846 8081B
Pesticide TCL List

LF17679
LJ1046

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 01/16/07 MS/MSD	RPD	BS	DUP
Aldrin	309-00-2	0.05	0.005	ug/l	72-122	16	72-122	16
alpha-BHC	319-84-6	0.05	0.005	ug/l	77-132	16	77-132	16
beta-BHC	319-85-7	0.05	0.005	ug/l	73-132	17	73-132	17
delta-BHC	319-86-8	0.05	0.005	ug/l	43-127	30	43-127	30
gamma-BHC (Lindane)	58-89-9	0.05	0.005	ug/l	80-136	17	80-136	17
alpha-Chlordane	5103-71-9	0.05	0.005	ug/l	75-131	16	75-131	16
gamma-Chlordane	5103-74-2	0.05	0.005	ug/l	79-136	17	79-136	17
Dieldrin	60-57-1	0.05	0.005	ug/l	80-136	16	80-136	16
4,4'-DDD	72-54-8	0.1	0.01	ug/l	64-154	25	64-154	25
4,4'-DDE	72-55-9	0.1	0.01	ug/l	65-146	21	65-146	21
4,4'-DDT	50-29-3	0.1	0.01	ug/l	62-143	28	62-143	28
Endrin	72-20-8	0.1	0.01	ug/l	75-139	15	75-139	15
Endosulfan sulfate	1031-07-8	0.1	0.01	ug/l	62-138	24	62-138	24
Endrin aldehyde	7421-93-4	0.1	0.01	ug/l	5-139	44	5-139	44
Endrin ketone	53494-70-5	0.1	0.01	ug/l	76-132	17	76-132	17
Endosulfan-I	959-98-8	0.05	0.005	ug/l	72-140	19	72-140	19
Endosulfan-II	33213-65-9	0.05	0.005	ug/l	75-139	16	75-139	16
Heptachlor	76-44-8	0.05	0.005	ug/l	71-143	15	71-143	15
Heptachlor epoxide	1024-57-3	0.05	0.005	ug/l	78-129	17	78-129	17
Methoxychlor	72-43-5	0.1	0.02	ug/l	63-140	20	63-140	20
Toxaphene	8001-35-2	2.5	1	ug/l	50-150	20	50-150	20

Tetrachloro-m-xylene	877-09-8	Surrogate Limits:	42-127
Decachlorobiphenyl	2051-24-3	Surrogate Limits:	27-127

21 compounds and 2 surrogates reported in list PTCL

Compound List Report
Product: P8082PCB Polychlorinated Biphenyls
Matrix: SO Solid

Method List: P8082 SO
Report List: PCB ALL
RL/MDL Factor: 0.33

Method Ref: SW846 8082A
PCB List

LF16973
LF2924

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 04/25/07 MS/MSD	RPD	BS	DUP
Aroclor 1016	12674-11-2	17	6.6	ug/kg	69-117	26	69-117	26
Aroclor 1221	11104-28-2	17	8.3	ug/kg	60-140	30	60-140	30
Aroclor 1232	11141-16-5	17	8.3	ug/kg	70-130	30	70-130	30
Aroclor 1242	53469-21-9	17	6.6	ug/kg	70-130	30	70-130	30
Aroclor 1248	12672-29-6	17	6.6	ug/kg	70-130	30	70-130	30
Aroclor 1254	11097-69-1	17	6.6	ug/kg	70-130	30	70-130	30
Aroclor 1260	11096-82-5	17	6.6	ug/kg	71-121	30	71-121	30

Tetrachloro-m- 877-09-8
Decachlorobipl 2051-24-3

Surrogate Limits: 44-126
Surrogate Limits: 39-157

7 compounds and 2 surrogates reported in list PCB

Compound List Report
Product: P8082PCB Polychlorinated Biphenyls
Matrix: AQ Aqueous

Method List: P8082 AQ
Report List: PCB ALL
RL/MDL Factor: 0.01

Method Ref: SW846 8082A
PCB List

LF16970
LF2924

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 04/25/07 MS/MSD	RPD	BS	DUP
Aroclor 1016	12674-11-2	0.5	0.2	ug/l	76-117	16	76-117	16
Aroclor 1221	11104-28-2	0.5	0.25	ug/l	60-140	30	60-140	30
Aroclor 1232	11141-16-5	0.5	0.25	ug/l	70-130	30	70-130	30
Aroclor 1242	53469-21-9	0.5	0.2	ug/l	70-130	30	70-130	30
Aroclor 1248	12672-29-6	0.5	0.2	ug/l	70-130	30	70-130	30
Aroclor 1254	11097-69-1	0.5	0.2	ug/l	70-130	30	70-130	30
Aroclor 1260	11096-82-5	0.5	0.2	ug/l	65-117	23	65-117	23

Tetrachloro-m-xyl	877-09-8	Surrogate Limits:	38-127
Decachlorobipher	2051-24-3	Surrogate Limits:	25-137

7 compounds and 2 surrogates reported in list PCB

	6010 AQ				6010 SO			
Parm_Syn	Units	DL	LOD	LOQ	Units	DL	LOD	LOQ
Aluminum	ug/l	25	25	200	mg/kg	1.2	1.25	10
Antimony	ug/l	2	2	6	mg/kg	0.1	0.1	1
Arsenic	ug/l	2	2	10	mg/kg	0.1	0.1	0.5
Barium	ug/l	5	5	200	mg/kg	0.5	0.5	10
Beryllium	ug/l	1	1	4	mg/kg	0.05	0.05	0.25
Cadmium	ug/l	1	1	5	mg/kg	0.05	0.05	0.2
Calcium	ug/l	100	100	1000	mg/kg	5	5	250
Chromium	ug/l	1	1	10	mg/kg	0.05	0.05	0.5
Cobalt	ug/l	1	1	50	mg/kg	0.05	0.05	2.5
Copper	ug/l	2	2	25	mg/kg	0.1	0.1	1.25
Iron	ug/l	35	50	300	mg/kg	1.7	2.5	15
Lead	ug/l	1	1	5	mg/kg	0.05	0.05	1
Magnesium	ug/l	100	100	5000	mg/kg	5	5	250
Manganese	ug/l	1	1	15	mg/kg	0.05	0.05	0.75
Molybdenum	ug/l	2	2	50	mg/kg	0.05	0.05	2.5
Nickel	ug/l	2	2	40	mg/kg	0.05	0.05	2
Potassium	ug/l	500	500	10000	mg/kg	25	25	500
Selenium	ug/l	2	2	10	mg/kg	0.2	0.2	1
Silver	ug/l	1	1	10	mg/kg	0.05	0.05	0.5
Sodium	ug/l	1900	2000	10000	mg/kg	55	100	500
Strontium	ug/l	1	1	10	mg/kg	0.05	0.05	0.5
Thallium	ug/l	1.85	2	10	mg/kg	0.13	0.25	0.5
Tin	ug/l	1	1	50	mg/kg	0.05	0.05	2.5
Titanium	ug/l	2	2	10	mg/kg	0.1	0.1	0.5
Vanadium	ug/l	1	1	50	mg/kg	0.05	0.05	2.5
Zinc	ug/l	5	5	20	mg/kg	0.25	0.25	1
Mercury (7470/7471)	ug/l	0.071		1	ug/kg	0.0103		0.083

Compound List Report
Product: H8151FL Herbicides, Full List
Matrix: AQ Aqueous

Method List: H8151 AQ
Report List: HERBFL ALL
RL/MDL Factor: 0.01

Method Ref: SW846 8151A
Herbicide List

LF176
LF144

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 12/18/07 MS/MSD	RPD	BS	DUP
2,4-D	94-75-7	1	0.25	ug/l	40-140	30	40-140	30
2,4,5-TP (Silvex)	93-72-1	0.1	0.036	ug/l	40-140	30	40-140	30
2,4,5-T	93-76-5	0.1	0.019	ug/l	40-140	30	40-140	30
Dicamba	1918-00-9	0.1	0.025	ug/l	40-140	30	40-140	30
Dinoseb	88-85-7	2	0.5	ug/l	10-140	30	10-140	30
Dalapon	75-99-0	2.5	1	ug/l	20-140	30	20-140	30
Dichloroprop	120-36-5	1	0.21	ug/l	40-140	30	40-140	30
2,4-DB	94-82-6	1	0.44	ug/l	40-140	30	40-140	30
MCPP	93-65-2	100	13	ug/l	40-140	30	40-140	30
MCPA	94-74-6	100	19	ug/l	40-140	30	40-140	30
Pentachlorophenol	87-86-5	0.1	0.021	ug/l	40-140	30	40-140	30
2,4-DCAA	19719-28-9				Surrogate Limits:		40-140	

11 compounds and 1 surrogates reported in list HERBFL

Compound List Report
Product: H8151FL Herbicides, Full List
Matrix: SO Solid

Method List: H8151 SO
Report List: HERBFL ALL
RL/MDL Factor: 0.33

Method Ref: SW846 8151A
Herbicide List

LF17529
LF1449

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 12/18/07 MS/MSD	RPD	BS	DUP
2,4-D	94-75-7	33	10	ug/kg	40-140	30	40-140	30
2,4,5-TP (Silvex)	93-72-1	3.3	1.1	ug/kg	40-140	30	40-140	30
2,4,5-T	93-76-5	3.3	1.1	ug/kg	40-140	30	40-140	30
Dicamba	1918-00-9	3.3	1.4	ug/kg	40-140	30	40-140	30
Dinoseb	88-85-7	83	17	ug/kg	10-140	30	10-140	30
Dalapon	75-99-0	170	33	ug/kg	20-140	30	20-140	30
Dichloroprop	120-36-5	33	12	ug/kg	40-140	30	40-140	30
2,4-DB	94-82-6	33	10	ug/kg	40-140	30	40-140	30
MCPP	93-65-2	3300	720	ug/kg	40-140	30	40-140	30
MCPA	94-74-6	3300	1000	ug/kg	40-140	30	40-140	30
Pentachlorophenol	87-86-5	3.3	0.78	ug/kg	40-140	30	40-140	30
2,4-DCAA	19719-28-9				Surrogate Limits:		40-140	

11 compounds and 1 surrogates reported in list HERBFL

Compound List Report
Product: V8260STD Volatile Organics
Matrix: AQ Aqueous

Nov 22, 2010 03:09 pm

Method List: VAIX826C Method Ref: SW846 8260B
The 8260 Sim method will be used 1,4 Dioxane
Report List: V8260 ALL VOA 8260 List
RL/MDL Factor: 1

LF17742

LF3395

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 10/23/10 MS/MSD	RPD	BS	DUP
Acetone	67-64-1	25	10	ug/l	59-134	14	59-134	14
Acrolein	107-02-8	20	5	ug/l	33-157	21	33-157	21
Acrylonitril	107-13-1	10	3	ug/l	62-124	13	62-124	13
Benzene	71-43-2	1	0.2	ug/l	83-124	11	83-124	11
Bromoben:	108-86-1	1	0.25	ug/l	83-115	10	83-115	10
Bromochlo	74-97-5	1	0.22	ug/l	78-112	10	78-112	10
Bromodich	75-27-4	1	0.2	ug/l	76-116	10	76-116	10
Bromoform	75-25-2	1	0.2	ug/l	68-128	11	68-128	11
n-Butylben	104-51-8	1	0.26	ug/l	84-124	10	84-124	10
sec-Butylbe	135-98-8	1	0.22	ug/l	86-127	10	86-127	10
tert-Butylb	98-06-6	1	0.27	ug/l	83-126	10	83-126	10
Chloroben:	108-90-7	1	0.2	ug/l	87-115	9	87-115	9
Chloroetha	75-00-3	2	0.5	ug/l	54-166	20	54-166	20
Chloroform	67-66-3	1	0.22	ug/l	85-123	10	85-123	10
o-Chloroto	95-49-8	1	0.22	ug/l	84-121	10	84-121	10
p-Chloroto	106-43-4	1	0.2	ug/l	84-120	10	84-120	10
2-Chloroetl	110-75-8	5	1.2	ug/l	63-125	24	63-125	24
Carbon disı	75-15-0	2	0.5	ug/l	67-147	12	67-147	12
Carbon teti	56-23-5	1	0.25	ug/l	74-139	13	74-139	13
1,1-Dichlor	75-34-3	1	0.25	ug/l	82-127	10	82-127	10
1,1-Dichlor	75-35-4	1	0.23	ug/l	75-133	13	75-133	13
1,1-Dichlor	563-58-6	1	0.28	ug/l	87-127	10	87-127	10
1,2-Dibrom	96-12-8	2	0.5	ug/l	61-118	15	61-118	15
1,2-Dibrom	106-93-4	1	0.37	ug/l	80-115	10	80-115	10
1,2-Dichlor	107-06-2	1	0.2	ug/l	76-122	11	76-122	11
1,2-Dichlor	78-87-5	1	0.25	ug/l	81-120	11	81-120	11
1,3-Dichlor	142-28-9	1	0.2	ug/l	81-113	11	81-113	11
2,2-Dichlor	594-20-7	1	0.44	ug/l	77-138	12	77-138	12
Dibromoch	124-48-1	1	0.2	ug/l	74-116	11	74-116	11
Dichlorodif	75-71-8	2	0.5	ug/l	34-158	22	34-158	22
cis-1,2-Dicl	156-59-2	1	0.26	ug/l	81-114	10	81-114	10
cis-1,3-Dicl	10061-01-5	1	0.2	ug/l	83-119	10	83-119	10
m-Dichloro	541-73-1	1	0.2	ug/l	86-115	9	86-115	9
o-Dichlorol	95-50-1	1	0.25	ug/l	85-115	9	85-115	9
p-Dichlorol	106-46-7	1	0.23	ug/l	87-113	10	87-113	10

trans-1,2-D 156-60-5	1	0.35 ug/l	82-126	10 82-126	10
trans-1,3-D 10061-02-6	1	0.2 ug/l	87-123	10 87-123	10
Ethylbenze 100-41-4	1	0.2 ug/l	87-118	10 87-118	10
2-Hexanon 591-78-6	10	4 ug/l	58-125	14 58-125	14
Hexachlorc 87-68-3	2	0.8 ug/l	71-133	12 71-133	12
Isopropylbe 98-82-8	1	0.2 ug/l	87-131	10 87-131	10
p-Isopropy 99-87-6	1	0.21 ug/l	83-125	9 83-125	9
4-Methyl-2 108-10-1	5	2 ug/l	62-125	13 62-125	13
Methyl bro 74-83-9	2	0.5 ug/l	55-151	21 55-151	21
Methyl chl 74-87-3	2	0.5 ug/l	55-173	22 55-173	22
Methylene 74-95-3	2	0.25 ug/l	81-116	10 81-116	10
Methylene 75-09-2	5	2 ug/l	69-125	11 69-125	11
Methyl eth 78-93-3	5	2 ug/l	61-127	13 61-127	13
Methyl Ter 1634-04-4	1	0.34 ug/l	75-116	10 75-116	10
Naphthaler 91-20-3	5	1 ug/l	59-125	15 59-125	15
n-Propylbe 103-65-1	1	0.2 ug/l	86-125	10 86-125	10
Styrene 100-42-5	1	0.2 ug/l	78-118	11 78-118	11
1,1,1,2-Tet 630-20-6	1	0.2 ug/l	81-119	10 81-119	10
1,1,1-Trichl 71-55-6	1	0.2 ug/l	79-133	11 79-133	11
1,1,2,2-Tet 79-34-5	1	0.23 ug/l	71-120	11 71-120	11
1,1,2-Trichl 79-00-5	1	0.22 ug/l	80-114	11 80-114	11
1,2,3-Trichl 87-61-6	1	0.5 ug/l	64-126	16 64-126	16
1,2,3-Trichl 96-18-4	2	0.3 ug/l	77-115	12 77-115	12
1,2,4-Trichl 120-82-1	1	0.5 ug/l	68-123	11 68-123	11
1,2,4-Trime 95-63-6	2	0.27 ug/l	82-120	10 82-120	10
1,3,5-Trime 108-67-8	2	0.21 ug/l	83-123	10 83-123	10
Tetrachlorc 127-18-4	1	0.25 ug/l	80-131	12 80-131	12
Toluene 108-88-3	1	0.2 ug/l	86-116	10 86-116	10
Trichloroet 79-01-6	1	0.26 ug/l	85-124	10 85-124	10
Trichlorofl 75-69-4	2	0.5 ug/l	66-156	15 66-156	15
Vinyl chlori 75-01-4	1	0.22 ug/l	57-153	22 57-153	22
Vinyl Aceta 108-05-4	10	2 ug/l	38-159	11 38-159	11
m,p-Xylene	2	0.32 ug/l	86-121	10 86-121	10
o-Xylene 95-47-6	1	0.2 ug/l	83-121	10 83-121	10
1,4 dioxane	2	1 ug/kg	82-126	25 82-126	10

Dibromofl 1868-53-7	Surrogate Limits:	87-116	
1,2-Dichlor 17060-07-0	Surrogate Limits:	76-127	
Toluene-D 2037-26-5	Surrogate Limits:	86-112	
4-Bromofl 460-00-4	Surrogate Limits:	84-120	

69 compounds and 4 surrogates reported in list V8260

Compound List Report
Product: V8260STD Volatile Organics

Matrix: SO Solid

Nov 22, 2010 03:09 pm

Method List: VAIX8260 SO Method Ref: SW846 8260B LF17743
The 8260 Sim method will be used 1,4 Dioxane
Report List: V8260 ALL VOA 8260 List LF3395

RL/MDL Factor: 1

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 10/23/10 MS/MSD	RPD	BS	DUP
Acetone	67-64-1	50	20	ug/kg	61-144	29	61-144	
Acrolein	107-02-8	25	11	ug/kg	27-156	39	27-156	
Acrylonitrile	107-13-1	25	11	ug/kg	55-144	24	55-144	
Benzene	71-43-2	5	1.5	ug/kg	78-130	25	78-130	
Bromobenzene	108-86-1	5	1.4	ug/kg	78-123	30	78-123	
Bromochloromethane	74-97-5	5	1.4	ug/kg	72-122	23	72-122	
Bromodichloromethane	75-27-4	5	1.1	ug/kg	73-122	25	73-122	
Bromoform	75-25-2	5	1.5	ug/kg	70-139	26	70-139	
n-Butylbenzene	104-51-8	5	1.3	ug/kg	80-138	31	80-138	
sec-Butylbenzene	135-98-8	5	1.6	ug/kg	82-132	29	82-132	
tert-Butylbenzene	98-06-6	5	1.2	ug/kg	79-130	29	79-130	
Chlorobenzene	108-90-7	5	1	ug/kg	83-122	23	83-122	
Chloroethane	75-00-3	5	2	ug/kg	61-153	31	61-153	
Chloroform	67-66-3	5	1.2	ug/kg	79-129	27	79-129	
o-Chlorotoluene	95-49-8	5	1.2	ug/kg	77-123	31	77-123	
p-Chlorotoluene	106-43-4	5	1.2	ug/kg	78-129	29	78-129	
2-Chloroethyl vinyl ethe	110-75-8	25	10	ug/kg	52-142	25	52-142	
Carbon disulfide	75-15-0	5	2	ug/kg	61-142	27	61-142	
Carbon tetrachloride	56-23-5	5	1.8	ug/kg	79-135	29	79-135	
1,1-Dichloroethane	75-34-3	5	1.1	ug/kg	77-132	26	77-132	
1,1-Dichloroethylene	75-35-4	5	1.4	ug/kg	66-132	27	66-132	
1,1-Dichloropropene	563-58-6	5	1.3	ug/kg	81-133	26	81-133	
1,2-Dibromo-3-chloropr	96-12-8	5	2.3	ug/kg	67-129	29	67-129	
1,2-Dibromoethane	106-93-4	5	1	ug/kg	77-126	24	77-126	
1,2-Dichloroethane	107-06-2	5	1	ug/kg	78-129	24	78-129	
1,2-Dichloropropane	78-87-5	5	1.2	ug/kg	74-127	27	74-127	
1,3-Dichloropropane	142-28-9	5	1	ug/kg	78-118	26	78-118	
2,2-Dichloropropane	594-20-7	5	1.4	ug/kg	80-137	28	80-137	
Dibromochloromethane	124-48-1	5	1	ug/kg	78-117	27	78-117	
Dichlorodifluoromethan	75-71-8	5	1.5	ug/kg	35-162	30	35-162	
cis-1,2-Dichloroethylene	156-59-2	5	1.5	ug/kg	74-123	26	74-123	
cis-1,3-Dichloropropene	10061-01-5	5	1	ug/kg	79-130	23	79-130	
m-Dichlorobenzene	541-73-1	5	1.2	ug/kg	82-126	29	82-126	

o-Dichlorobenzene	95-50-1	5	1.1 ug/kg	83-123	28	83-123
p-Dichlorobenzene	106-46-7	5	1.1 ug/kg	84-124	28	84-124
trans-1,2-Dichloroethyle	156-60-5	5	1.5 ug/kg	77-129	27	77-129
trans-1,3-Dichloroprope	10061-02-6	5	1.1 ug/kg	87-131	27	87-131
Ethylbenzene	100-41-4	5	1 ug/kg	82-124	25	82-124
2-Hexanone	591-78-6	25	5.4 ug/kg	67-130	29	67-130
Hexachlorobutadiene	87-68-3	5	2 ug/kg	77-150	36	77-150
Isopropylbenzene	98-82-8	5	1.1 ug/kg	82-133	27	82-133
p-Isopropyltoluene	99-87-6	5	1.2 ug/kg	82-132	29	82-132
4-Methyl-2-pentanone	108-10-1	25	5.5 ug/kg	69-125	24	69-125
Methyl bromide	74-83-9	5	2 ug/kg	60-146	31	60-146
Methyl chloride	74-87-3	5	2 ug/kg	58-163	26	58-163
Methylene bromide	74-95-3	5	1.5 ug/kg	75-128	26	75-128
Methylene chloride	75-09-2	10	4.6 ug/kg	62-140	25	62-140
Methyl ethyl ketone	78-93-3	25	6.1 ug/kg	66-134	23	66-134
Methyl Tert Butyl Ether	1634-04-4	5	2 ug/kg	70-131	25	70-131
Naphthalene	91-20-3	5	2 ug/kg	59-143	31	59-143
n-Propylbenzene	103-65-1	5	1.4 ug/kg	78-129	29	78-129
Styrene	100-42-5	5	2.6 ug/kg	79-123	28	79-123
1,1,1,2-Tetrachloroethai	630-20-6	5	1 ug/kg	81-121	25	81-121
1,1,1-Trichloroethane	71-55-6	5	1.1 ug/kg	80-133	27	80-133
1,1,2,2-Tetrachloroethai	79-34-5	5	1.2 ug/kg	70-128	30	70-128
1,1,2-Trichloroethane	79-00-5	5	1.1 ug/kg	76-118	28	76-118
1,2,3-Trichlorobenzene	87-61-6	5	1 ug/kg	78-136	34	78-136
1,2,3-Trichloropropane	96-18-4	5	1.7 ug/kg	74-125	30	74-125
1,2,4-Trichlorobenzene	120-82-1	5	1.2 ug/kg	82-137	32	82-137
1,2,4-Trimethylbenzene	95-63-6	5	1.1 ug/kg	77-129	29	77-129
1,3,5-Trimethylbenzene	108-67-8	5	1.3 ug/kg	79-129	31	79-129
Tetrachloroethylene	127-18-4	5	1 ug/kg	79-132	27	79-132
Toluene	108-88-3	5	1.2 ug/kg	80-123	26	80-123
Trichloroethylene	79-01-6	5	1.2 ug/kg	78-132	28	78-132
Trichlorofluoromethane	75-69-4	5	2 ug/kg	67-149	29	67-149
Vinyl chloride	75-01-4	5	1.5 ug/kg	60-145	29	60-145
Vinyl Acetate	108-05-4	25	14 ug/kg	25-164	35	25-164
m,p-Xylene		10	2.2 ug/kg	82-128	25	82-128
o-Xylene	95-47-6	5	1 ug/kg	82-126	25	82-126
1,4 -Dioxane		2	1 ug/kg	82-126	25	82-126

Dibromofluoromethane	1868-53-7	Surrogate Limits: 80-121
Toluene-D8	2037-26-5	Surrogate Limits: 71-130
4-Bromofluorobenzene	460-00-4	Surrogate Limits: 59-148
1,2-Dichloroethane-D4	17060-07-0	Surrogate Limits: 77-123

69 compounds and 4 surrogates reported in list V8260

ID	Task Name	Duration	Start	Finish
1	**Submittal of RFI Supplemental Phase IV Work Plan to KDHE**	1 day	12/21/2012	12/21/2012
2	**Review, Repsonse to Comments, and Approval of RFI Work Plan**	31 wks	1/1/2013	8/5/2013
3	**Investigation Prep**	90 days	4/30/2013	9/2/2013
4	Contractor Selection	4 wks	4/30/2013	5/27/2013
5	Equipment Procurement	4 wks	8/6/2013	9/2/2013
6	Verificaton of KDHE Radiological Survey	3 wks	8/6/2013	8/26/2013
7	**Facility Investigation**	35 days	9/3/2013	10/21/2013
8	Boring Advancement	4 wks	9/3/2013	9/30/2013
9	Laboratory Analysis	3 wks	10/1/2013	10/21/2013
10	**Data Analysis**	4 wks	10/22/2013	11/18/2013
11	**RFI Reporting**	4 wks	11/25/2013	12/20/2013
12	**Recommendations for Monitoring Well Locations**	1 day	12/31/2013	12/31/2013

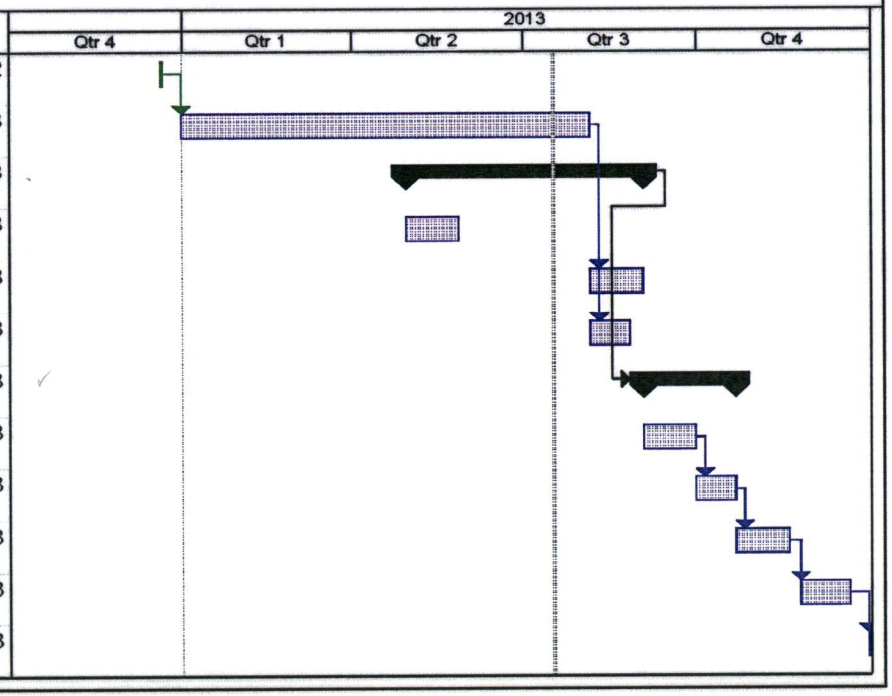

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FIGURE 14

RFI WORK PLAN IMPLEMENTATION SCHEDULE
Clean Harbor Facility
Wichita, Kansas

SCALE:	DATE:	PROJECT:
Graph	7/16/13	1808

TABLE 4
Summary of Proposed Samples and Anlytical Parameters
Phase IV RFI
Clean Harbors, Wichita Facility

						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group I Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #1	S1-1	d	0-0.5	Soil	OVM		X				X	X								
Process Area		d	2	Soil	OVM		X				X	X								
(Figure 5)		d,k	5	Soil	OVM		H				X	H								
		d,k	10	Soil	OVM		H				X	H								
		d,k	15	Soil	OVM		H				X	H								
		d,k	Soil/GW Interface	Soil	OVM						X	H								
		d,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
	S1-2	d	0-0.5	Soil	OVM		X				X	X								
		d	2	Soil	OVM		X				X	X								
		d,k	5	Soil	OVM		H				X	H								
		d,k	10	Soil	OVM		H				X	H								
		d,k	15	Soil	OVM		H				X	H								
		d,k	Soil/GW Interface	Soil	OVM						X	H								
		d,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
SWMU # 2	S2-1	a	0 - 0.5	Soil	OVM		X				X	X	X							
Waste Blending and Drum		a	2	Soil	OVM		X				X	X								
Processing Area		a,k	5	Soil	OVM		H				X	H								
(Figure 5)		a,k	10	Soil	OVM		H				X	H								
		a,k	15	Soil	OVM		H				X	H								
		a,k	Soil/GW Interface	Soil	OVM						X	H	X							
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X	X							
	S2-2	a	0-0.5	Soil	OVM		X				X	X	X							
		a	2	Soil	OVM		X				X	X								
		a	5	Soil	OVM		X				X	X								
SWMU #3	S3-1	a	0-0.5	Soil	OVM		X				X	X	X							
		a	2	Soil	OVM		X				X	X								
Former Drum Processing Area		a,k	5	Soil	OVM		H				X	H								
(Figure 5)		a,k	10	Soil	OVM		H				X	H								
		a,k	15	Soil	OVM		H				X	H								
		a,k	Soil/GW Interface	Soil	OVM						X	H	X							
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X	X							
	S3-2	a	0-0.5	Soil	OVM		X				X	X	X							
		a	2	Soil	OVM		X				X	X								
		a	5	Soil	OVM		X				X	X								
SWMU #4	S4-1	d	0-0.5	Soil	OVM		X				X	X								
Process Area Truck Bay		d	2	Soil	OVM		X				X	X								
(Figure 5)		d,k	5	Soil	OVM		H				X	H								
		d,k	10	Soil	OVM		H				X	H								
		d,k	15	Soil	OVM		H				X	H								
		d,k	Soil/GW Interface	Soil	OVM						X	H								
		d,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
	S4-2	d	0-0.5	Soil	OVM		X				X	X								
		d	2	Soil	OVM		X				X	X								
		d,k	5	Soil	OVM		H				X	H								
		d,k	10	Soil	OVM		H				X	H								
		d,k	15	Soil	OVM		H				X	H								
		d,k	Soil/GW Interface	Soil	OVM						X	H								
		d,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								

TABLE 4
Summary of Proposed Samples and Anlytical Parameters
Phase IV RFI
Clean Harbors, Wichita Facility

						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #5	DC-21	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
Sparging Area (Figure 5)		b	5	Soil	OVM	H														
	DC-22	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-24	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-25	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-27	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-28	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-SUMP	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM						X									
		b	10	Soil	OVM						H									
		b	15	Soil	OVM						H									
		b	Soil/GW Interface	Soil	OVM						H									
		b	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
SWMU #6	DC-23	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
Hot Rooms (Figure 5)		b	5	Soil	OVM	H														
	DC-26	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
SWMU #7	DC-1	b	0-0.5	Soil	OVM	X							X							
		b	2**	Soil	OVM	X														
Elevated Tank Storage Area (Figure 5)		b	5	Soil	OVM	H														
	DC-2	b	0-0.5	Soil	OVM	X							X							
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-3	b	0-0.5	Soil	OVM	X							X							
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
		b	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
SWMU #8	DC-4	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
Regulated Waste Storage Area (Figure 5)		b	5	Soil	OVM	H														
	DC-5	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-6	b	0-0.5	Soil	OVM	X														

TABLE 4
Summary of Proposed Samples and Anlytical Parameters
Phase IV RFI
Clean Harbors, Wichita Facility

						Laboratory Analysis														
								Group 2 (CMS)									Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #8		b	2**	Soil	OVM	X														
Regulated Waste Storage Area (Figure 5)		b	5	Soil	OVM						H									
		b	10	Soil	OVM						H									
		b	15	Soil	OVM						H									
		b	Soil/GW Interface	Soil	OVM						H									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	DC-7	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-8	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-9	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM						H									
		b	10	Soil	OVM						H									
		b	15	Soil	OVM						H									
		b	Soil/GW Interface	Soil	OVM						H									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	DC-10	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-11	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
SWMU #9	DC-12	b	0-0.5	Soil	OVM	X														
Solids Dryer (Figure 5)		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-13	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-14	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-15	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-16	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	DC-17	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM						H									
		b	10	Soil	OVM						H									
		b	15	Soil	OVM						H									
		b	Soil/GW Interface	Soil	OVM						H									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	DC-18	b	0-0.5	Soil	OVM	X														

TABLE 4
Summary of Proposed Samples and Anlytical Parameters
Phase IV RFI
Clean Harbors, Wichita Facility

						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #9	DC-18	b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
Solids Dryer	DC-20	b	0-0.5	Soil	OVM	X														
(Figure 5)		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
SWMU #10	S10-1	a	0-0.5	Soil	OVM		X				X	X	X							
Drum Crusher		a	2	Soil	OVM		X				X	X								
(Figure 5)		a,k	5	Soil	OVM		H				X	H								
		a,k	10	Soil	OVM		H				X	H								
		a,k	15	Soil	OVM		H				X	H								
		a,k	Soil/GW Interface	Soil	OVM						X	H	X							
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X	X							
SWMU #11	S11-1	a	0-0.5	Soil	OVM						X		X							
Crushed-Drum Roll-Off Boxes		a	2	Soil	OVM						X									
(Figure 5)		a,k	5	Soil	OVM			X			X					X		X		
	S11-1	a,k	10	Soil	OVM						X									
		a,k	15	Soil	OVM			X			X					X		X		
		a,k	Soil/GW Interface	Soil	OVM						X		X							
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO			X	X		X		X	X	X	X				
	(S11-1a)	a,k	Above Clay lens	Groundwater	pH/Sp. Cond./DO				X		X		X	X	X					
		a,k	20-25	Soil	OVM			X								X			X	
		a,k	Clay Lens	Soil	OVM						X								X	
	S11-2	a,k	0-0.5	Soil	OVM						X		X							
			2	Soil	OVM						X									
			5	Soil	OVM						X									
			10	Soil	OVM						X									
			15	Soil	OVM						X									
			Soil/GW Interface	Soil	OVM						X		X							
			2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X		X							
	S11-3	a	0-0.5	Soil	OVM						X		X							
		a	2	Soil	OVM						X									
		a,k	5	Soil	OVM						X									
		a,k	10	Soil	OVM						X									
		a,k	15	Soil	OVM						X									
		a,k	Soil/GW Interface	Soil	OVM						X		X							
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X		X							
SWMU #13	S13-1	a	0-0.5	Soil	OVM		X				X	X								
Dock Area		a	2	Soil	OVM		X				X	X								
(Figure 6)		a,k	5	Soil	OVM		H				X	H								
		a,k	10	Soil	OVM		H				X	H								
		a,k	15	Soil	OVM		H				X	H								
		a,k	Soil/GW Interface	Soil	OVM						X	H								
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
	S13-2	a	0-0.5	Soil	OVM		X				X	X								
		a	2	Soil	OVM		X				X	X								

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						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group I Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #13	S13-2	a,k	5	Soil	OVM		H				X	H								
Dock Area		a,k	10	Soil	OVM		H				X	H								
(Figure 6)		a,k	15	Soil	OVM		H				X	H								
		a,k	Soil/GW Interface	Soil	OVM						X	H								
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
	S13-3	a	0-0.5	Soil	OVM		X				X	X								
		a	2	Soil	OVM		X				X	X								
		a,k	5	Soil	OVM		H				X	H								
		a,k	10	Soil	OVM		H				X	H								
		a,k	15	Soil	OVM		H				X	H								
		a,k	Soil/GW Interface	Soil	OVM						X	H								
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
	S13-4	a	0-0.5	Soil	OVM		X				X	X								
		a	2	Soil	OVM		X				X	X								
		a	5	Soil	OVM		H				H	H								
SWMU #14	S14-1	a	0-0.5	Soil	OVM		X													
Building C Drum Storage Warehouse		a	2	Soil	OVM		X				X	X								
(Figure 6)		a	5	Soil	OVM		H				H	H								
	S14-2	a	0-0.5	Soil	OVM		X													
		a	2	Soil	OVM		X				X	X								
		a,k	5	Soil	OVM		H				X	H								
		a,k	10	Soil	OVM		H				X	H								
		a,k	15	Soil	OVM		H				X	H								
		a,k	Soil/GW Interface	Soil	OVM						X	H								
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
	S14-3	a	0-0.5	Soil	OVM		X				X	X								
		a	2	Soil	OVM		X				X	X								
		a	5	Soil	OVM		H				H	H								
	S14-4	a	0-0.5	Soil	OVM		X				X	X								
		a	2	Soil	OVM		X				X	X								
		a,k	5	Soil	OVM		H				X	H								
		a,k	10	Soil	OVM		H				X	H								
		a,k	15	Soil	OVM		H				X	H								
		a,k	Soil/GW Interface	Soil	OVM						X	H								
		a,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
	S14-5	a	0-0.5	Soil	OVM		X				X	X								
		a	2	Soil	OVM		X				X	H								
		a	5	Soil	OVM		H				H	H								
SWMU #15	JC-1	b	0-0.5	Soil	OVM	X														
Building J		b	2**	Soil	OVM	X														
(Figures 7 and 9)		b,k	5	Soil	OVM						X									
		b,k	10	Soil	OVM						X									
		b,k	15	Soil	OVM						X									
		b,k	Soil/GW Interface	Soil	OVM						X									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	JC-2	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														

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Summary of Proposed Samples and Anlytical Parameters
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						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #15 Building J (Figures 7 and 9)	JC-3	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b,k	5	Soil	OVM						X									
		b,k	10	Soil	OVM						X									
		b,k	15	Soil	OVM						X									
		b,k	Soil/GW Interface	Soil	OVM						X									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	JC-4	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	JC-5	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b,k	5	Soil	OVM						X									
		b,k	10	Soil	OVM						X									
		b,k	15	Soil	OVM						X									
		b,k	Soil/GW Interface	Soil	OVM						X									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	(JC-5a)	b,k	Above Clay lens	Groundwater	pH/Sp. Cond./DO						X									
	JC-6	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	JC-7	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b,k	5	Soil	OVM						X									
		b,k	10	Soil	OVM						X									
		b,k	15	Soil	OVM						X									
	JC-7	b,k	Soil/GW Interface	Soil	OVM						X									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	JC-8	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	JC-9	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b,k	5	Soil	OVM						X									
		b,k	10	Soil	OVM						X									
		b,k	15	Soil	OVM						X									
		b,k	Soil/GW Interface	Soil	OVM						X									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	JC-10	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	JC-11	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b,k	5	Soil	OVM						X									
		b,k	10	Soil	OVM						X									
		b,k	15	Soil	OVM						X									
		b,k	Soil/GW Interface	Soil	OVM						X									

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Summary of Proposed Samples and Anlytical Parameters
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						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #15	JC-11	b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
Building J	JC-12	b	0-0.5	Soil	OVM	X														
(Figures 7 and 9)		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	JC-13	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b,k	5	Soil	OVM						X									
		b,k	10	Soil	OVM						X									
		b,k	15	Soil	OVM						X									
		b,k	Soil/GW Interface	Soil	OVM						X									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	JC-14	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
SWMU #16	BC-1	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
The Corrosive Waste Storage Area		b	5	Soil	OVM	H														
(Figure 8)	BC-2	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b,k	5	Soil	OVM						H									
		b,k	10	Soil	OVM						H									
		b,k	15	Soil	OVM						H									
		b,k	Soil/GW Interface	Soil	OVM						H									
		b,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	BC-3	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
	BC-4	b	0-0.5	Soil	OVM	X														
		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
SWMU #17	S17-1	k	2	Soil	OVM		X				X									
Former Dry Solids Gondola		k	5	Soil	OVM		X				X									
(Figure 6)		k	10	Soil	OVM		X				X									
		k	15	Soil	OVM		X				X									
		k	Soil/GW Interface	Soil	OVM		X				X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X									
	(S17-1a)	k	Above Clay lens	Groundwater	pH/Sp. Cond./DO						X									
		k	Clay Lens	Soil	OVM						X								X	
	S17-2	k	2	Soil	OVM		X				X									
		k	5	Soil	OVM		X				X									
		k	10	Soil	OVM		X				X									
		k	15	Soil	OVM		X				X									
		k	Soil/GW Interface	Soil	OVM		X				X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X									

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Phase IV RFI
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						Laboratory Analysis														
								Group 2 (CMS)					Total Petroleum Hydrocarbons (DRO)					Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC		Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #18	S18-1	k	2	Soil	OVM						X									
Open Area Along Southwestern		k	5	Soil	OVM						X									
Corner of Site		k	10	Soil	OVM						X									
(Figure 11)		k	15	Soil	OVM						X									
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S18-2	k	2	Soil	OVM						X									
		k	5	Soil	OVM						X									
		k	10	Soil	OVM						X									
		k	15	Soil	OVM						X									
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S18-2D	j,k	Lower Zone	Soil	Lithology															
	S18-3	k	2	Soil	OVM						X									
		k	5	Soil	OVM						X									
		k	10	Soil	OVM						X									
		k	15	Soil	OVM						X									
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S18-4	k	2	Soil	OVM						X									
		k	5	Soil	OVM			X			X					X		X		
		k	10	Soil	OVM						X									
		k	15	Soil	OVM			X			X					X		X		
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO			X	X		X			X	X	X				
		k	20-25	soil				X								X			X	
	S18-5	k	2	Soil	OVM						X									
		k	5	Soil	OVM						X									
		k	10	Soil	OVM						X									
		k	15	Soil	OVM						X									
		k	Soil/GW Interface	Soil	OVM						H									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
		k	Clay Lens	Soil	OVM						X									
	S18-5D	j,k	Lower Zone	Soil	Lithology														X	
	S18-6	k	2	Soil	OVM						X									
		k	5	Soil	OVM						X									
		k	10	Soil	OVM						X									
		k	15	Soil	OVM						X									
		k	Soil/GW Interface	Soil	OVM						H									
SWMU #20	S20-1	k	2	Soil	OVM		X				X									
Former Paint Pit		k	5	Soil	OVM		X				X									
(Figure 8)		k	10	Soil	OVM		X				X									
		k	15	Soil	OVM		X				X									
		k	Soil/GW Interface	Soil	OVM		X				X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X									

TABLE 4
Summary of Proposed Samples and Anlytical Parameters
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						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #21	DC-19	b	0-0.5	Soil	OVM	X														
Cyclone (Figure 5)		b	2**	Soil	OVM	X														
		b	5	Soil	OVM	H														
SWMU #22	S22-1	f	0-0.5	Soil	OVM						X						X[2]			
Solvent Still Area		f	2	Soil	OVM						X						H[2]			
(Figure 9)		f	5	Soil	OVM						X						H[2]			
		f	10	Soil	OVM						X						H[2]			
		f	15	Soil	OVM						X						H[2]			
		f	Soil/GW Interface	Soil	OVM						X						H[2]			
	S22-1	f,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X						H[2]			
	S22-2	f	0-0.5	Soil	OVM						X						X[2]			
		f	2	Soil	OVM						X						H[2]			
		f	5	Soil	OVM						X						H[2]			
		f	10	Soil	OVM						X						H[2]			
		f	15	Soil	OVM						X						H[2]			
		f	Soil/GW Interface	Soil	OVM						X						H[2]			
		f,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X						H[2]			
SWMU #24	S24-1	k	0-0.5	Soil	OVM															
Area South of Building C		k	2	Soil	OVM						X									
(Figure 6)		k	5	Soil	OVM						X						X			
		k	10	Soil	OVM						X									
		k	15	Soil	OVM						X						X			
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S24-1D	j,k	Clay Lens	Soil	OVM/Lithology												X			
		j,k	Lower Zone	Soil	OVM/Lithology												X			
	S24-2	k	2	Soil	OVM						X									
		k	5	Soil	OVM						X									
		k	10	Soil	OVM						X									
		k	15	Soil	OVM						X									
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S24-3	k	2	Soil	OVM						X									
		k	5	Soil	OVM						X									
		k	10	Soil	OVM						X									
		k	15	Soil	OVM						X									
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S24-4	k	2	Soil	OVM						X						X			
		k	5	Soil	OVM						X						X			
		k	10	Soil	OVM						X									
		k	15	Soil	OVM						X									
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X						X			

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						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
SWMU #25 Building 1	S25-1	d	0-0.5	Soil	OVM		X				X	X								
		d	2	Soil	OVM		X				X	X								
		d	5	Soil	OVM		H				H	H								
		d	10	Soil	OVM		H				H	H								
		d	15	Soil	OVM		H				H	H								
		d	Soil/GW Interface	Soil	OVM		H				H	H								
		d	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S25-2	d	0-0.5	Soil	OVM		X				X	X								
		d	2	Soil	OVM		X				X	X								
		d,k	5	Soil	OVM						H									
		d,k	10	Soil	OVM						H									
		d,k	15	Soil	OVM						H									
		d,k	Soil/GW Interface	Soil	OVM						H									
		d,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
AOC #8 (OA#4) Possible Former Drum Storage Area (Figure 12)	A8-1		0-0.5	Soil	OVM						X									
			2	Soil	OVM						X									
			5	Soil	OVM						X									
			10	Soil	OVM						X									
			15	Soil	OVM						X									
			Soil/GW Interface	Soil	OVM						X									
			2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
AOC #10 (OA#16) Northeastern Corner Possible Bulk Storage (Figure 10)	A10-1	k	0-0.5	Soil	OVM		X													
		k	2	Soil	OVM		X				X									
		k	5	Soil	OVM		X				X									
		k	10	Soil	OVM		X				H									
		k	15	Soil	OVM		X				H									
		k	Soil/GW Interface	Soil	OVM		X				H									
	A10-2	k	0-0.5	Soil	OVM		X													
		k	2	Soil	OVM		X				X									
		k	5	Soil	OVM		X				X									
		k	10	Soil	OVM		X				H									
		k	15	Soil	OVM		X				H									
		k	Soil/GW Interface	Soil	OVM		X				H									
	A10-3	k	0-0.5	Soil	OVM															
		k	2	Soil	OVM		X				X									
		k	5	Soil	OVM		X				X									
		k	10	Soil	OVM		X				H									
		k	15	Soil	OVM		X				H									
		k	Soil/GW Interface	Soil	OVM		X				H									
		h,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X									
	A10-4	k	0-0.5	Soil	OVM		X													
		k	2	Soil	OVM		X				X									
		k	5	Soil	OVM		X				X									
		k	10	Soil	OVM		X				H									
		k	15	Soil	OVM		X				H									
		k	Soil/GW Interface	Soil	OVM		X				H									
		h,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO			X	X		X									
		k	Clay Lens	Soil	OVM						X									

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SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Laboratory Analysis												Soil Parameters		Ecological
						Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Group 2 (CMS)		Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
								Total Metals	Dissolved Metals[1]											
AOC #10	A10-5	k	0-0.5	Soil	OVM		X													
(OA#16) Northeastern Corner		k	2	Soil	OVM		X				X									
Possible Bulk Storage		k	5	Soil	OVM		X				X									
(Figure 10)		k	10	Soil	OVM		X				H									
		k	15	Soil	OVM		X				H									
		k	Soil/GW Interface	Soil	OVM		X				H									
AOC #11	A11-1	c	0-0.5	Soil	OVM		X				X	X								
Bulk Storage Tanks Between The		c	2	Soil	OVM		X				X	X								
Warming Room and Processing Area		c,k	5	Soil	OVM		H				X	H								
(Figure 5)		c,k	10	Soil	OVM		H				X	H								
		c,k	15	Soil	OVM		H				X	H								
		c,k	Soil/GW Interface	Soil	OVM		H				X	H								
		c,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO		X				X	X								
AOC #12	A12-1	c	0-0.5	Soil	OVM/Radiological						X						X			
Area of Elevated Radium-226		c	2	Soil	OVM/Radiological						X						X			
(Figure 9)		c,k	5	Soil	OVM/Radiological						X						X			
		c,k	10	Soil	OVM/Radiological						X						X			
		c,k	15	Soil	OVM/Radiological						X						X			
		c,k	Soil/GW Interface	Soil	OVM/Radiological						X						X			
		c,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X						X			
		c,k	Above Clay Lens	Groundwater	pH/Sp. Cond./DO						X						X			
	A12-1D	c,k	Lower Zone	Groundwater	Lithology/pH/Sp. Cond./DO						X						X			
	A12-2	c	0-0.5	Soil	OVM						X						X			
		c	2	Soil	OVM						X						X			
		c	5	Soil	OVM						H						H			
	A12-3	c	0-0.5	Soil	OVM						X						X			
		c	2	Soil	OVM						X						X			
		c,k	5	Soil	OVM						X						X			
		c,k	10	Soil	OVM						H						X			
		c,k	15	Soil	OVM						H						X			
		c,k	Soil/GW Interface	Soil	OVM						H						X			
		c,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X						X			
	A12-4	c	0-0.5	Soil	OVM						X						X			
		c	2	Soil	OVM						X						X			
		c	5	Soil	OVM						H						H			
	A12-5	c	0-0.5	Soil	OVM						X						X			
		c	2	Soil	OVM						X						X			
		c,l	5	Soil	OVM						X						X			
	A12-6	c	0-0.5	Soil	OVM												X			
		c	2	Soil	OVM												X			
		c	5	Soil	OVM												H			
	MW-18	c	ShallowWater Table	Groundwater	pH/Sp. Cond./DO												X			
	A12-BG1	c	0-0.5	Soil	Radiological												X			
	A12-BG2	c	0-0.5	Soil	Radiological												X			
	A12-BG3	c	0-0.5	Soil	Radiological												X			
	A12-BG4	c	0-0.5	Soil	Radiological												X			

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								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth - (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group I Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
Transect Samples (Figure 13)																				
Northwest Corner of Facility	T0-1	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
Transect 1	T1-1	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S17-1	See SWMU-17																		
	S18-2	See SWMU-18																		
	S13-1	See SWMU-13																		
	T1-2	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
Transect 2	S18-5	See SWMU-18																		
	S18-4	See SWMU-18																		
	S13-3	See SWMU-13																		
	S2-1	See SWMU-2																		
	T2-1	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
		k	Clay Lens	Soil	OVM						X									
Transect 3	T3-1	g,k	Upper Zone	Groundwater	pH/Sp. Cond./DO						X									
	T3-2	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	S10-1	See SWMU-10																		
	DC-9	See SWMU-8																		
	T3-3	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
		k	Clay Lens	Soil	OVM						X									
Transect 4	T4-1	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	T4-2	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	T4-3	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
		k	Clay Lens	Soil	OVM						X									
	S25-1	See SWMU-25																		
	S22-1	See SWMU-22																		
Transect 5	T5-1	g,k	Upper Zone	Groundwater	pH/Sp. Cond./DO						X									
	T5-2	k	Soil/GW Interface	Soil	pH/Sp. Cond./DO						X									
	T5-2D	l,k	Lower Zone	Soil	Lithology															
	T5-3	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	T5-4	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
		k	Clay Lens	Soil	OVM						X									
	S25-2	See SWMU-25																		
Transect 6	T6-1	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	T6-2	k	2	Soil	OVM						X									
		k	5	Soil	OVM			X			X					X		X		
		k	10	Soil	OVM						X									
		k	15	Soil	OVM			X			X					X		X		
		k	Soil/GW Interface	Soil	OVM						X									
		k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO			X	X		X			X	X	X				
		k	20-25	soil				X								X			X	X
		k	Clay Lens	Soil	OVM						X								X	X
	JC-9	See SWMU-15																		
	SK-6S	Existing Well																		
Transect 7	T7-1	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	T7-2	k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	SEBJ-1	See Southeast Building J																		
	A10-4	See AOC 10																		

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								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group 1 Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
Transect 8	T8-5	h,l,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO			X			X									
	T8-0	h	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	T8-1	g,h,l,k	Upper Zone	Groundwater	pH/Sp. Cond./DO						X									
	T8-1D	h,l,k	Lower Zone	Groundwater	Lithology/pH/Sp. Cond./DO						X									
	T8-2	h,l,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
		h,l,k	Clay Lens	Soil	OVM						X									
	T8-2D	h,l,k	Lower Zone	Groundwater	Lithology/pH/Sp. Cond./DO						X									
	SK-10S	Existing Well																		
	T8-3	h,l,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	T8-4	h	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
Vertical Stratification	SK-2S	g	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	(Hydrasleeve)	g	Two-ft interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Two-ft interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Two-ft interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Above Clay Lens	Groundwater	pH/Sp. Cond./DO						X									
	S11-1	See SWMU-11																		
	S-11a	g	Above Clay Lens	Groundwater	pH/Sp. Cond./DO						X									
	SK-1S	g	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	(Hydrasleeve)	g	Two-ft interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Two-ft interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Two-ft Interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Above Clay Lens	Groundwater	pH/Sp. Cond./DO						X									
	S17-1	See SWMU-15																		
	S-17a	g	Above Clay Lens	Groundwater	pH/Sp. Cond./DO						X									
	SK-12S	g	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	(Hydrasleeve)	g	Two-ft interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Two-ft interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Two-ft interval	Groundwater	pH/Sp. Cond./DO						X									
		g	Above Clay Lens	Groundwater	pH/Sp. Cond./DO						X									
	JC-5	See SWMU-15 - Building J Closure Samples																		
Chishom Creek (Figure 13)	CC-0	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-1	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-2	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-3	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-4	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-5	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-6	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-7	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-8	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-9	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	CC-10	g, i	Creek Bottom	Sediment	NA		X			X		X				X				
	PW-0	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-1	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-2	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-3	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-4	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-5	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-6	g, i	Creek Bottom	Pore Water	NA					X	X									

TABLE 4
Summary of Proposed Samples and Anlytical Parameters
Phase IV RFI
Clean Harbors, Wichita Facility

						Laboratory Analysis														
								Group 2 (CMS)										Soil Parameters		Ecological
SWMU / AOC/ Other Area	Sample Location	RCRA Permit Section (III.E.2.2)	Sample Depth (ft)	Media	Field Parameters	Closure Plan Appendix A Parameters[1]	Group I Total Metals (RCRA)	Total Metals	Dissolved Metals[1]	Toxaphene (Pesticide)	VOC's	SVOC	Total Petroleum Hydrocarbons (DRO)	Total General Chemistry	Dissolved General Chemistry[1]	Total Organic Carbon	Radium-226/228	Vadose Zone	Saturated Zone	Benthic Survey
Chishom Creek (Figure 13)	PW-7	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-8	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-9	g, i	Creek Bottom	Pore Water	NA					X	X									
	PW-10	g, i	Creek Bottom	Pore Water	NA					X	X									
	BS-1	g, i	Creek Bottom	Aquatic Detritis	NA															X
	BS-2	g, i	Creek Bottom	Aquatic Detritis	NA															X
	BS-3	g, i	Creek Bottom	Aquatic Detritis	NA															X
	BS-4	g, i	Creek Bottom	Aquatic Detritis	NA															X
	BS-5	g, i	Creek Bottom	Aquatic Detritis	NA															X
North Building J	NBJ-1	h,k	0-0.5	Soil	OVM						X									
		h,k	2	Soil	OVM						X									
		h,k	5	Soil	OVM						X									
		h,k	10	Soil	OVM						X									
		h,k	15	Soil	OVM						X									
		h,k	Soil/GW Interface	Soil	OVM						X									
		h,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	NBJ-1a	h,k	Above Clay Lens	Groundwater	pH/Sp. Cond./DO						X									
Southeast Building J (Figure 7)	SEBJ-1	h,k	0-0.5	Soil	OVM						X									
		h,k	2	Soil	OVM						X									
		h,k	5	Soil	OVM						X									
		h,k	10	Soil	OVM						X									
		h,k	15	Soil	OVM						X									
		h,k	Soil/GW Interface	Soil	OVM						X									
		h,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	SEBJ-2	h,k	0-0.5	Soil	OVM						X									
		h,k	2	Soil	OVM						X									
Southeast Building J (Figure 7)	SEBJ-2	hh	5	Soil	OVM						X									
		h,k	10	Soil	OVM						X									
		h,k	15	Soil	OVM						X									
		h,k	Soil/GW Interface	Soil	OVM						X									
		h,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
	SEBJ-3	h,k	0-0.5	Soil	OVM						X									
		h,k	2	Soil	OVM						X									
		h,k	5	Soil	OVM						X									
		h,k	10	Soil	OVM						X									
		h,k	15	Soil	OVM						X									
		h,k	Soil/GW Interface	Soil	OVM						X									
		h,k	2-ft Below Water Table	Groundwater	pH/Sp. Cond./DO						X									
Building E (Figure 12)	AS-1	I	Building E	Air	NA						X									
	AS-2	I	Building E	Air	NA						X									
	AS-3	I	Background	Air	NA						X									
	AS-4	I	Sub-Slab	Air	NA						X									
	AS-5	I	Sub-Slab	Air	NA						X									

[1] Closure Plan Appendix A Parameters include analysis for VOCs, SVOCs, Pesticides, Herbicides, and PCBs
Refer to QAPP Table 2 for a complete list of parameters and analytical methods
OVM=Organic Vapor Monitor (Photo-Ionization Detector or equivalent)
Sp. Cond- specific conductance
DO=dissolved oxygen
VOC=volatile organic compound
[1] Dissolved metal samples will be field filtered
[2] Samples will only be collected if the surfical survey indicate elevated radium 226/228 are present.
X = Sample collected and Analyzed
H = Sample to be collected and submitted to laboratory. Sample will be analyzed by laboratory if preceeding depth is impacted
**Sample to be collected at the baserock/native soil interface which is expected to be approximately 2 ft below the surface

TABLE 2
List of Analytes and Method Detection Limits
Phase IV RFI
Clean Harbors Kansas, LLC

	Water		Soil		Air		Sediment	
Analyte	**Method**	**MDL (ug/L)**	**Method**	**MDL (ug/kg)**	**Method**	**MDL (ppbv)**	**Method**	**MDL (ug/kg)**
Group 1 Metals								
Arsenic	SW846 6010B	1	SW846 6010B	50	NA	NA	NA	NA
Barium	SW846 6010B	1	SW846 6010B	50	NA	NA	NA	NA
Cadmium	SW846 6010B	0.2	SW846 6010B	10	NA	NA	NA	NA
Chromium	SW846 3060A/7199	1	SW846 3060A/7199	50	NA	NA	NA	NA
Lead	SW846 6010B	1	SW846 6010B	50	NA	NA	NA	NA
Mercury	SW-846 7471	0	SW-846 7471	40	NA	NA	NA	NA
Selenium	SW846 6010B	1	SW846 6010B	50	NA	NA	NA	NA
Silver	SW846 6010B	0.5	SW846 6010B	25	NA	NA	NA	NA
Group 2 Metals above plus the following								
Calcium	SW846 6010B	25	SW846 6010B	1300	NA	NA	NA	NA
Magnesium	SW846 6010B	7.9	SW846 6010B	1300	NA	NA	NA	NA
Manganese	SW846 6010B	1	SW846 6010B	50	NA	NA	NA	NA
Sodium	SW846 6010B	100	SW846 6010B	1600	NA	NA	NA	NA
Potassium	SW846 6010B	45	SW846 6010B	10,000	NA	NA	NA	NA
Iron	SW846 6010B	23	SW846 6010B	1100	NA	NA	NA	NA
Group 3 Closure Sample Metals								
Closure Plan - Appendix A List (attached)	NA	NA	SW846 6010B	See Note Below	NA	NA	NA	NA
Petroleum Hydrocarbons								
DRO	SW 846 8015 Mod	4000	Same as water	40000	NA	NA	NA	NA
Volatile Organic Compounds								
Closure Plan - Appendix A List (attached)	SW846 8260B	See Note Below	SW846 8260B	See Note Below	TO-15	See Note Below	SW846 8260B	Same as Soils
1,4-Dioxane	SW846 8260B SIM	See Note Below	SW846 8260B SIM	See Note Below	NA	NA	NA	NA
Semi-Volatile Organic Compounds								
Closure Plan - Appendix A List (attached)	SW846 8270D	See Note Below	SW846 8270D	See Note Below	NA	NA	NA	NA
Polychlorinated Biphenyls (PCB)								
Closure Plan - Appendix A List (attached)	SW846 8082A	See Note Below	SW846 8082A	See Note Below	NA	NA	NA	NA
Herbicides								
Closure Plan - Appendix A List (attached)	SW846 8151A	See Note Below	SW846 8151A	See Note Below	NA	NA	NA	NA
Pesticides								
Closure Plan - Appendix A List (attached)	SW846 8081	See Note Below	SW846 8081	See Note Below	NA	NA	NA	NA
Toxaphene	NA	NA	NA	NA	NA	NA	SW846 8081	5.5
General Chemistry and Others								
pH	150.1	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	415.1	NA	Unsaturated = D-425		NA	NA	NA	NA
			Saturated = ASTM 2974		NA	NA	NA	NA
Total Solids	EPA 160.3	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids	EPA 160.2	NA	NA	NA	NA	NA	NA	NA

TABLE 2
List of Analytes and Method Detection Limits
Phase IV RFI
Clean Harbors Kansas, LLC

	Water		Soil		Air		Sediment	
Analyte	Method	MDL (ug/L)	Method	MDL (ug/kg)	Method	MDL (ppbv)	Method	MDL (ug/kg)
Total Dissolved Solids	EPA 160.1	NA	NA	NA	NA	NA	NA	NA
Corrosivity	NA	NA	SW 846 9045B	NA	NA	NA	NA	NA
Chloride	EPA 300.0	NA	SW-846 9056	NA	NA	NA	NA	NA
Fluoride	EPA 300.0	NA	SW-846 9056	NA	NA	NA	NA	NA
Total Alkalinity	SM 2320 B	NA	NA	NA	NA	NA	NA	NA
Carbonate Alkalinity	SM 2320 B	NA	NA	NA	NA	NA	NA	NA
Bicarbonate Alkalinity	SM 2320 B	NA	NA	NA	NA	NA	NA	NA
Total Hardness	EPA 200.7	NA	NA	NA	NA	NA	NA	NA
Sulfide	SM 4500 S2	NA	SW-846 7.3.4	NA	NA	NA	NA	NA
Sulfate	EPA 300.0	NA	SW-846 9056	NA	NA	NA	NA	NA
Nitrate	EPA 300.0	NA	SW-846 9056	NA	NA	NA	NA	NA
Nitrite	EPA 300.0	NA	SW-846 9056	NA	NA	NA	NA	NA
Radium-226	EPA 903.1	NA	EPA 903.1	NA	NA	NA	NA	NA
Radium-228	EPA 903.1	NA	EPA 903.1	NA	NA	NA	NA	NA
Wet Bulk Denisty	NA	NA	API RP-40	NA	NA	NA	NA	NA
Dry Bulk Density	NA	NA	API RP-40	NA	NA	NA	NA	NA
Particle Size Distribution	NA	NA	ASTM D6913 - 04 or D4464	NA	NA	NA	NA	NA
Intrinsic Permeability	NA	NA	API RP-40	NA	NA	NA	NA	NA
Moisture Content	NA	NA	API RP-40	NA	NA	NA	NA	NA
Total and Effective Porosity	NA	NA	API RP-40	NA	NA	NA	NA	NA
Vertical and Horizontal Conductivity	NA	NA	ASTM D5084	NA	NA	NA	NA	NA

NOTE: See attached Tables from Appendix A of the Building J Closure Plan for list of compounds included in analysis and associated MDL and reporting limits.

NA=Not Applicable

Quality Assurance Project Plan

Phase IV RCRA Facility Investigation
Clean Harbors Kansas (Wichita), Inc.
2549 New York Avenue, Wichita, Kansas
EPA Identification No KSD007246846

Prepared for:

Waste Remediation and Permitting Branch
U.S. EPA Region VII
11201 Renner Boulevard
Lenexa, KS 66219

Prepared by:

Cameron-Cole, LLC

July 22, 2013

This quality assurance project plan (QAPP) has been prepared to ensure that environmental and related data collected, compiled, and/or generated for this project are complete, accurate, and of the type, quantity, and quality required for their intended use.

Approvals:

_____ _____

Diane Harris
EPA Quality Assurance Manager

Date

_____ _____

Christine Jump
EPA Project Manager

Date